

WIRELESS GETS BIG, DUAL G4 UPGRADES, MAKE AN EASTER EGG

A better machine. A better magazine.

MacAddict

www.macaddict.com

APRIL 2001 NO. 56

10 THINGS YOU'RE NOT SUPPOSED TO DO!

IT'S OKAY,
YOU WON'T
GET IN
TROUBLE
(MUCH)

PLUS
OUR TOP 8
APRIL FOOLS'
JOKES!

SHARE A
NETWORKED
PRINTER

GET FAMOUS:
SHOOT A
HOLLYWOOD
SCREEN TEST

RECORD YOUR
MAC'S FIRST
WORDS

HOW TO CHOOSE
YOUR NEXT VIDEO CARD

RATED: Cubase, Quicken TurboTax versus Kiplinger TaxCut (JUST IN TIME), Oni (FINALLY), FotoShow, Rewind, plus all the latest games!

\$7.99US \$9.99CAN



imagine
MEDIA WITH PASSION

Microsoft
Office:mac
2001

Made easy. Made for Mac. | www.officeformac.com



Rita

I need to communicate. With my office, my boss, my customers. My kids. I need words, numbers and pictures to speak their language. And a way to use them that's fast and fun. **Microsoft® Office 2001.** All the essentials.

Microsoft

Power



Presenting the new Power Mac™ G4 — the first personal computer that creates custom DVDs playable in ordinary DVD players. This unprecedented feat is made possible by two Apple breakthroughs: the aptly named SuperDrive*, an industry-first DVD-R+CD-RW drive that burns both DVDs and CDs. Plus iDVD*, Apple's revolutionary new software that lets you create DVD titles so simply it's, well, revolutionary. Together with iMovie™ or Final Cut Pro® (sold separately), you've got your own Hollywood production company. And to burn your own soundtrack CDs, there's Apple's new iTunes** — the world's most advanced yet easiest-to-use digital music software.

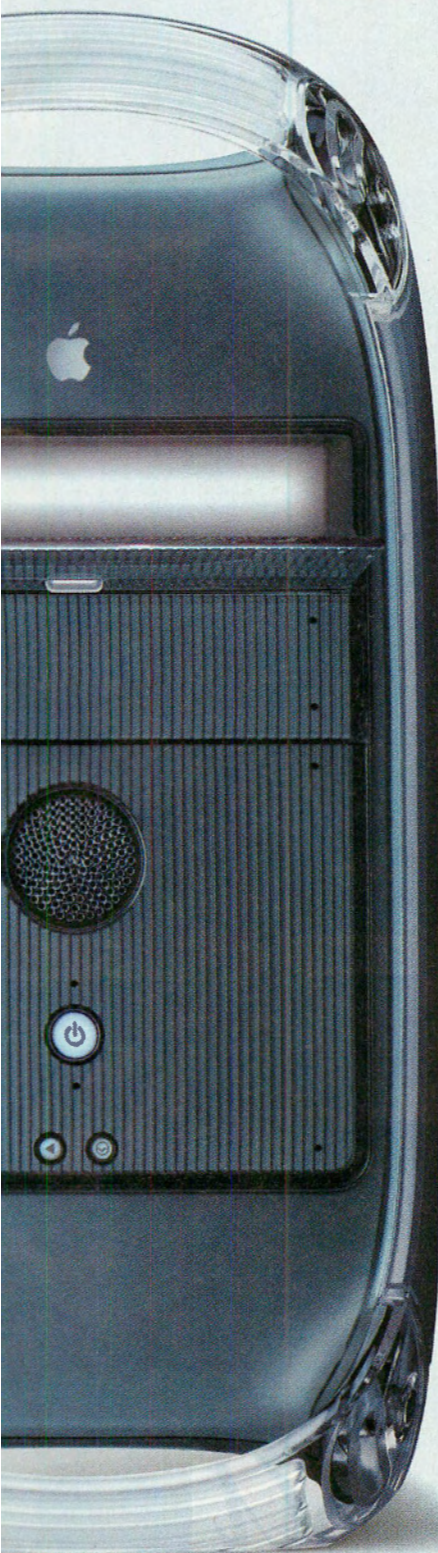
Of course, there are other significant changes on the Power Mac G4 to help you take advantage of this amazing technology. Like an NVIDIA GeForce2 graphics card†, a dramatically faster system bus, five slots (one super-fast AGP 4x graphics and four high-performance PCI slots), built-in Gigabit Ethernet, plus AirPort,†† FireWire® and USB ports.

All this is combined with a phenomenally powerful G4 processor. With sustained speeds of up to 5.5 gigaflops (performing up to 57% faster than the new Pentium 4[§]), the new Power Mac G4 has more than enough power to burn CDs, DVDs and — oh, yeah — Pentiums.

For more information, call 1-800-MY-APPLE or visit www.apple.com.



to burn.



Spin your own music: iTunes lets you create a digital music library right on your Mac. Rip audio CDs, create playlists of your favorite songs, copy them into your portable MP3 player – even burn your own custom CDs. And with iTunes' amazingly easy-to-use interface, you can do it all without asking a teenager to show you how.



Your movies: Now on DVD. Apple's revolutionary SuperDrive and iDVD software let you create and burn your own custom DVDs that play in ordinary DVD players. Simply assemble your content from iMovie, Final Cut Pro or any QuickTime™ source. Choose your own menu style, then click "Burn DVD." For even more full-featured, professional DVDs, use Apple's DVD Studio Pro™ software (sold separately).

 Think different.™

*DVD-R configurations only. **iTunes is licensed for reproduction of non-copyrighted material or materials the user is legally permitted to reproduce. †Standard on top three models. ††ISP compatibility may vary. ‡Based on Photoshop tests on available systems as of 12/22/00. ©2001 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Final Cut Pro, FireWire and Mac are registered trademarks and iPort, iDVD Studio Pro, iMovie, Power Mac, QuickTime, and Think different are trademarks of Apple Computer, Inc. Other product and company names mentioned herein may be trademarks of their respective companies.

saibo 発進

(Your little companion SAI is now here!)



UDF

Universal Disk Format



For DVD-RAM

**DVD-RAM
TuneUp!™ &
Write DVD!™ Pro**

Includes
FixDVD!™



For CD-RW

**WriteCD-RW!™
Pro**

Includes
FixUDF!™



For MO ZIP JAZ

**Disk Drive
TuneUp™**

Includes
FixUDF!™

Take the mystery out of disk interchange between computer systems. Whether it's Japanese cartoons on DVD, text files on MO, or digital photos on CD-RW, SAI's full line of UDF file system utilities save you time and hassle by providing fast, reliable disk interchange with all types of removable media. Now includes FixUDF!™, the world's first disk diagnostic & repair utility for UDF formatted disks. Contact us at: www.softarch.com, or call 1-800-863-9297.



Earth Image: NASA and NSSDC



highlights

26 10 Things You Don't Know How to Do (and Probably Shouldn't)

If you're willing to risk your Mac's life and limb—or your own—read on. From overclocking to forging an email, we tell you how you can potentially inflict damage on your Mac or land yourself in jail. Proceed with caution.

by Buz Zoller



Brandon always looked for the imp in everyone.

36 Top April Fools' Pranks

Gone are the days of hiding hand buzzers in your palm on April 1. This year, sit down in front of someone else's Mac and wreak a little havoc. We've got eight April Fools' ideas for you that will have any Mac owner ready to seek therapy—or convert to Windows (OK, maybe not).

by Maria Langer

Perhaps if I plugged in my monitor I would see something?



40 Shoot Your Own Screen Test

If you're looking for a clever way to sell yourself to Hollywood, consider making your own screen test, complete with high-end special effects. Throw in enough cool stuff and you don't even need to be a decent actor. Just remember to send us our cut when you hit it big.

by Steve, Raf, and Miriam Anzovin

Crouching actor, hidden vidcam!



Artist Tim Gabor created this month's six-eyed madman.

how to

66 Draw a 12-Step Egg

Ah, Easter—the holiday that lets you know summer isn't far off. To get into the spirit of things, we're showing you how to make a vector-graphics Easter egg that'll be the envy of your clip-art-spewing colleagues.

by Narasu Rebbapragada

Over-easy does it.



70 Record Your Mac's Voice

Whether the voice is the masculine Bruce, the feminine Victoria, the childish Princess, or the difficult-to-categorize Agnes, your Mac speech is a unique sound that would fit well into music loops—if only you could record it. Here's how.

by Buz Zoller

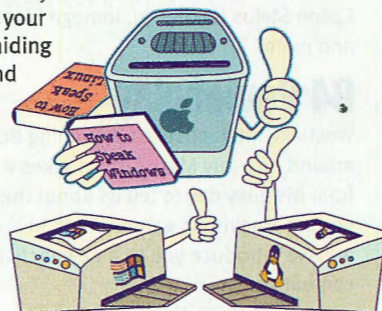


Regrets, I have a few...let's face it, putting a toupee over my ventilation port wasn't the wisest thing to do.

72 Print to PC PostScript Printers

Try bringing a PowerBook into your office and you're apt to find that your printers might as well be hiding in a secret fortress—beyond the Mountains of Insanity and fiercely guarded by the Dragons of Fate. Here are some tricks, tips, and techniques that'll let you print to even the most ornery network printer.

by Ian Sammis



By mid-afternoon, the Fonz thumbs-up virus had infected everything.

REPRINTS

For reprints, contact RMS at 717-399-1900.

Volume 6, Issue 4

MacAddict (ISSN 1088-548X) is published monthly by Imagine Media, Inc., 150 North Hill Dr., Brisbane, CA 94005, USA. Periodical-class postage paid at Brisbane, CA, and at additional mailing offices. Newsstand distribution is handled by Curtis Circulation Co. Basic subscription rates: one year (12 issues + 12 CD-ROMs) U.S. \$39.90, Canada \$43.95, U.S. prepaid funds only. Canadian price includes postage and GST 128220688. IPM 0962392. Outside the U.S. and Canada, price is \$53.95, U.S. prepaid funds only. POSTMASTER: Send address changes to MacAddict, P.O. Box 58251, Boulder, CO 80328-8251. Imagine Media, Inc. also publishes *Maximum PC*, *Business 2.0*, *Games Business*, *Next Generation*, *digitalFOTO*, *PC Gamer*, and *PSM*. Entire contents copyright 2000, Imagine Media, Inc. All rights reserved. Reproduction in whole or in part is prohibited. Imagine Media, Inc. is not affiliated with the companies or products covered in MacAddict. Ride-Along enclosed in the following editions: A4, B1, B2, B3, PRODUCED IN THE UNITED STATES OF AMERICA.

SUBSCRIPTION QUERIES

Please phone customer service toll-free at 888-771-6222.

every month

12 Editor's Note

The Grizzled One retakes the bridge and talks about the biggest threat to our Macs in some time.

14 Letters

We couldn't possibly have made that many mistakes—besides the Kennedy assassination, that is.

18 Get Info

Find out why 2001 won't be like 1996 for Apple when it comes to bleeding red ink. Plus, we help you choose between GeForce and Radeon if you want a new video card for your Mac, and we give you a hint about the future of wireless. You even get a Mac OS X checklist. Thank us later with cash and precious metals.

24 Scrapbook

Despite tiptoeing through Macworld Expo in January without making a sound, we managed to catch Mac OS 9.1. Here's a peek at its new features and foibles.

46 Reviews

When it rains, it pours—games, that is. This month we test Oni, Rune, SimTheme Park, Monopoly, Majesty, and Jeopardy. On a more serious note, your taxes are due, so we pit Quicken TurboTax Deluxe against Kiplinger TaxCut Deluxe. Audiophiles will rejoice at Cubase VST/32 and Reason. Plus the Epson Stylus Color 777i, Iomega FotoShow, Rewind, and more.

64 Powerplay

Westlake Interactive programming ace and all-around nice guy Mark Adams takes a few minutes from his busy day to tell us about the business of porting Macintosh games. Myth III is on the way, and we introduce you to a new tactical space combat game.

76 Ask Us

It's time to lose those "Can't-watch-movies-on-the-desktop-and-all-my-MP3s-are-eight-dot-three" blues.

104 Shut Down

Really, it's just parody and all that other stuff the First Amendment protects.

My god, it's full of parts...
You found my wallet? Find this, baby!
Month 2 of the missing bottom feeder.
Cathy wants all your empty boxes and
all your gelati...arrivederci!



Pay no attention to the man
behind the curtain!



Look out! He's holding
the Thermal Detonator!



The future of digital audio
is...tape!



Feather your hair with *this* blow-dryer.



EDITOR IN CHIEF David Reynolds

EDITORIAL

MANAGING EDITOR Jenifer Morgan

SENIOR EDITORS Cathy Lu (features), Ian Sammis (technology)

ASSOCIATE EDITORS Narasu Rebbapragada, Ryan Adams (reviews)

DIGITAL MEDIA EDITOR Andrew Tokuda

WEBMONSTER Niko Coucouvanis

CONTRIBUTING EDITORS Raf Anzovin, Steven Anzovin,

Joseph O. Holmes, Buz Zoller

ART

ART DIRECTOR David Ross

ASSOCIATE ART DIRECTOR Christopher S. Imlay

CREATIVE DIRECTOR Wayne Allen

PRODUCTION

PRODUCTION DIRECTOR Richard Lesovoy

PRODUCTION COORDINATOR Hans Hunt

PRODUCTION MANAGER Warren Baskin

ADVERTISING

ASSOCIATE PUBLISHER Don Kimenker

REGIONAL AD MANAGER Michelle Paredes

SR. ACCOUNTS MANAGER, DIRECT SALES Ana Epstein

DIRECTOR OF MARKETING Mary LaChapelle

MARKETING MANAGER Sue Meredith

AD COORDINATOR Matt Wheeland

BUSINESS MANAGER Doug Haynie

CIRCULATION

GROUP CIRCULATION DIRECTOR Kate Bailey

CIRCULATION MANAGER Jerry Murphy

NEWSSTAND DIRECTOR Eric Alekman

NEWSSTAND SALES MANAGER Jonathan Vernier

ONLINE MARKETING MANAGER Mayumi Stroy

FULFILLMENT MANAGER Peggy Mores

SALES AND MARKETING COORDINATOR Christopher Boily

DIRECT MARKETING ASSISTANT Alex Guzman



Imagine Media, Inc.
150 North Hill Dr., Brisbane, CA 94005
(415) 468-6884, <http://www.imagemedia.com>

Executive Chairman • Chris Anderson

President • Nancy W. O'Neill

Vice President/CFO • Tom Valentino

Vice President/Circulation • Holly Klingel

Vice President/HR • Steve Leibman

General Counsel • Charles Schug

IMAGINE BUSINESS DIVISION
President • Michela O'Connor
(Business 2.0)

IMAGINE COMPUTING DIVISION
President • Cheryl England
(MacAddict, Maximum PC, Maximum Linux, MacAddict Network,
Maximum PC Network, digitalFOTO, T3)

IMAGINE ENTERTAINMENT DIVISION
President • Jonathan Simpson-Birt
(PC Gamer, PSM, Daily Radar, Next Generation,
Games Business, Total Movie, Revolution, Dreamcast Magazine)

Imagine Media is aimed at people who have a passion. A passion for games. For business. For computers. Or for the Internet. These are passions we share. Our goal is to feed your passion with the greatest magazines, Web sites, and CD-ROMs imaginable. We love to innovate, we love to have fun, and we have a cast-iron rule always to deliver spectacular editorial value. That means doing whatever it takes to give you the information you need. With any luck, we'll even make you smile sometimes...Thanks for joining us.

Imagine Media Inc. is part of The Future Network plc.

The Future Network plc serves the information needs of groups of people who share a passion. We aim to satisfy their passion by creating magazines and Web sites that offer superb value for money, trustworthy information, multiple ways to save time and money, and are a pleasure to read or visit. This simple strategy has helped create one of the fastest-growing media companies in the world: we publish more than 100 magazines, 20 magazine Web sites, and a number of Web networks from offices in five countries. The company also licenses 42 magazines in 30 countries. The Future Network is a public company quoted on the London Stock Exchange (symbol: FNET).

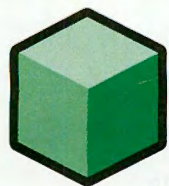


Chairman Chris Anderson
Chief Executive Greg Ingham
Tel +44 1225 442244

www.thefuturenetwork.plc.uk
Bath London Milan Munich New York Paris San Francisco

NEW!

NOW SHIPPING!



REALbasic3

The powerful, easy-to-use tool for creating your own software for Macintosh, Mac OS X, and Windows.

Tons Of New Features + Hundreds Of Bug Fixes!

Top 5 Reasons You Should Be Using REALbasic:

- Creates compiled, native applications for Macintosh, Mac OS X, and Windows! Since they all use the same code and layout, you only need to design your application once.
- Allows you make your computer do what you need it to. Everyone has unique problems they need to solve, and REALbasic allows you create your own solution!
- It is easy to use and learn. Build a working application in less than 5 minutes! Hobbyists and professionals experience profound productivity.
- Encourages experimentation and learning. Since you can run your application at any time, you build things step-by-step, and get instant results.
- It's Professional-strength! REALbasic uses a sophisticated version of Object-Oriented BASIC, provides access to the Mac Toolbox, SQL, AppleEvents, and more!



MacPower2000
Products of The Year



Macworld
★★★★



Apple
Design
Award



2000 Runner-Up - Best Macintosh User Experience

Go to www.realbasic.com now to download a **FREE** trial version or call 512.263.1233

REALbasic and the REALbasic logo are trademarks of REAL Software, Inc. Apple and the Apple logo are trademarks of Apple Computer, Inc., registered in the U.S., used with permission. All other trademarks are the property of their respective owners.



The Disc—No Foolin'



Help! I'm under attack by the Village People!



Hundreds of instruments, and quality studio gear—all right in front of you on your computer screen.



We made this student-grade violin look like a Smithsonian-bound collector's item with just a click of a mouse!

And you wonder where women get body image problems!



It's Gonna Be an Awesome April!



Oni Demo

In July 1999, we brought you some goodies: an Oni trailer and some Oni music. It's 2001, and the dream has become a reality. No more ogling from the sidelines. No more taunting teasers. That's because the Oni demo is here at last! Take on the role of Konoko, the heroine of this third-person action adventure that Mac gamers have been talking about for years. This killer demo takes you through some training and a couple of missions to give you a taste of what's available in the full version!



Cubase VST/32 Demo

Cubase VST/32 is the successor to Steinberg's professional MIDI sequencing and digital audio application, VST/24. With new features like an improved interface, Apogee UV22 dithering, TrueTape Analog Sound recording, and built-in virtual synthesizers, you don't need anything else for better-than-pro quality audio. Plus, the VST (Virtual Studio Technology) feature is a powerful plug-in technology, so you can add more virtual instruments and audio effects for almost unlimited expansion opportunities. Industry professionals have used Cubase VST to make hit albums and score major motion pictures. It could be the audio tool for you! Dip your toes into pro-level waters with the Cubase VST/32 demo on this month's disc!



Melancholytron 1.0

Flaming Pear comes back with another head-turning, wow-'em, mood-inducing Photoshop plug-in called Melancholytron. Take an image—any image—and give it a classic, old-style flavor with this easy-to-use plug-in. We also have a slew of other Flaming Pear plug-ins to accompany Melancholytron. Give it a trial run, and turn your precious pictures into priceless ones! Well, they'll look priceless, anyway.



Expression 2 Trial

Adobe Illustrator is known for its vector tools. Photoshop is the reigning king of pixel-based graphic editing. Expression 2 is an illustration program like no other, combining the best tools of both worlds. Imagine creating a subtle stroke of color with a watercolor brush. Now imagine having the ability to curve that stroke...or stretch it...or loop it. Expression 2 gives you the power and a whole lot more. It's a new way of illustrating on your Mac. Try out the demo on this month's disc.



We took a trip to see the world...no, the nation...well, the city-renowned Macintosh appraisers and find out the value of classic Apple- and Mac-related products of yesteryear. All right, they're not really city-renowned, nor are they real appraisers, but the guest stars of our *Antiques Road Show* take-off provide some laughs in this month's staff video, "The MacTiques Road Show," directed and edited by our very own Cathy Lu.



DAVE?TM It's totally cool!

How cool would it be for your Macs and PCs to become best friends? To share text and graphics files and postscript printers across a network with no barriers. Get DAVE, the "totally cool" file share solution from Thursby Software. DAVE installs on your Mac. It's fast, secure and simple to use... perfect for sharing with Windows 95/98/Me/NT/2000 and soon, for Mac OS X.

Download a **FREE EVALUATION** today.



The File Share FolksTM

www.thursby.com

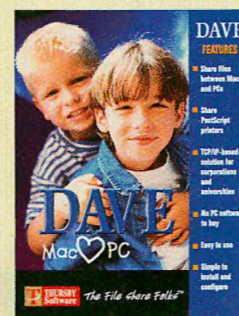
© 2001 Thursby Software Systems, Inc.



THURSBY SOFTWARE has the
perfect file share solution to
meet your needs.



The ideal solution for the small
office where Macs & PCs need
to share files.



The fast, easy way to share
files and printers between
PCs and Macintosh systems.



Achieve true NFS connectivity
between your Mac and
UNIX systems.



Windows users can access
files on any Mac workstation
or AppleShare server.

Chillin' with your friends requires a certain sonic vibe. A vibe best not left to radio. Set the mood proper. Burn your favorite MP3s onto CD using the best selling CD burning software in the known universe. Toast® 5, by Roxio. Check out roxio.com/Toast5. Use a PC? Look for Easy CD Creator® 5.

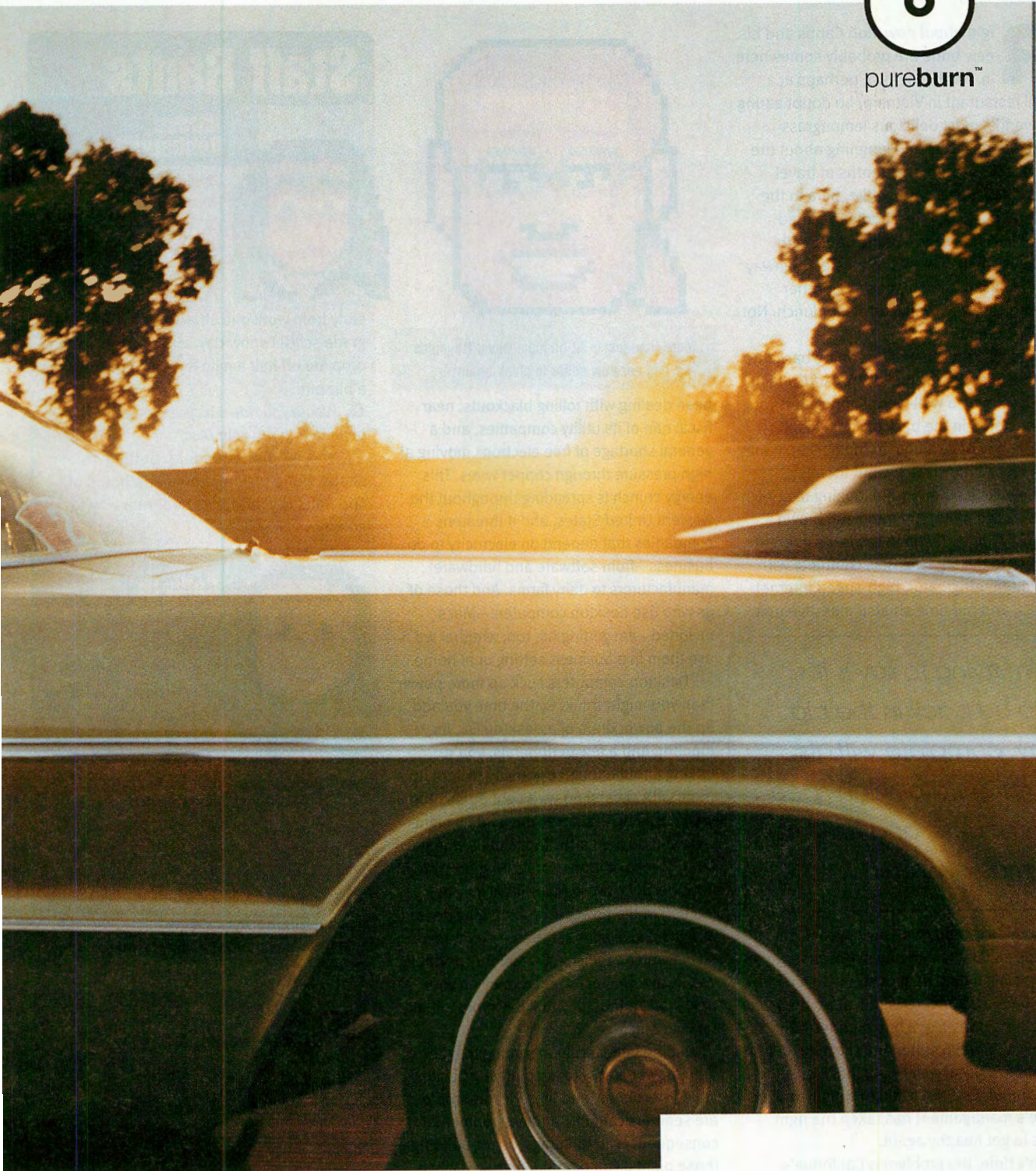
don't trust the radio



roxioTM
THE DIGITAL MEDIA COMPANY
from ADAPTEC



pureburn™



editor's note

He's baaack! Hide your lentils and children.

Right about now, Rob Capps and his new bride are probably somewhere in Southeast Asia, perhaps at a small restaurant in Vietnam, no doubt eating the world's most delicious lemongrass-flavored delicacies and laughing about the prospect of eight more months of travel around the globe. Meanwhile, here in the States, I'm back in the saddle I vacated nearly two years ago—doing battle with traffic on the Bay Area's congested highway system, facing the prospect of another chicken sandwich with carrots for lunch. Not that I'm jealous.

And actually, I'm not. Stepping back into the role of editor in chief at *MacAddict* feels like putting on a well-worn flannel shirt you had secreted in the back of your closet. Sure, it may have a hole in the pocket, it may even feel a little scratchy, but there's nothing like it when you're looking to stretch an overused metaphor into a full-blown cliché. What I'm trying to say is it's good to be back in the big La-Z-Boy, complete with its built-in refrigerator, high-speed Internet access, and full-time shiatsu massage unit.

What I'm trying to say is it's good to be back in the big La-Z-Boy, complete with its built-in refrigerator, high-speed Internet access, and full-time shiatsu massage unit.

And it's a good thing my paycheck includes all those amenities, because we're facing a big figurative monster with a fairly hairy back that threatens to tear up the computing party like a bad eighties hair band in a Motel 6 suite. And this time it's not Apple's fiscal well-being that's at issue—the company's been through worse, and Apple's management has taken the right steps to get healthy again.

This time, the problem is California's energy deregulation woes and what they mean for those of us who lead the digital lifestyle. If you've kept your fingers in your ears for the past three months while singing the theme song to *The Jeffersons* at the top of your lungs, here's the story: California has



More than just a 32-bit icon, David Reynolds is our new editor in chief...again!

been dealing with rolling blackouts, near fiscal ruin of its utility companies, and a general shortage of free electrons moving at high pressure through copper wires. This energy crunch is spreading throughout the western United States, and it threatens companies that depend on electricity to do business—from software and hardware manufacturers to dairy farms. And those of us who use desktop computers—Macs included—are getting hit, too, whether we use them in a business setting or at home.

Desktop computers suck up more power than you might think. By the time you add up the power drain of a desktop G4, its monitor, and a few peripherals, you're talking about enough electricity to light up a room with several 60-watt light bulbs. And if you're leaving that on all day and all night—well, you do the math. Those of us who have PowerBooks or iBooks are sitting pretty right now, because *those* Macs draw only a fraction of the power a desktop Mac does, and they have almost the same features. The lesson on the small scale: Buy portable. You'll save electricity and money on your power bill, although you'll pay more initially for your Mac.

On the larger scale, it's going to take more power plants to keep driving Silicon Valley's economy and lifestyle, and there are serious economic and environmental consequences to building—or not building—those plants. Our demand for electricity is going to become more and more important to our digital lifestyle, and it's not a question of whether we'll satisfy that demand. It's only a question of how.

And I thought my choice of lunch meat was a sticky issue.

Staff Rants

Narasu Rebbapragada

Uphill-to-School-Both-Ways Editor

Q. What has been your favorite part of the rolling blackouts?

A. Being sent home early from work one afternoon. It felt like a grade-school snow day, except the bus didn't drop me off half a mile from my house during a blizzard.

Q. Would you ride a bicycle-powered generator to run your Mac?

A. Yes, I definitely would. Getting in shape while playing hours and hours of *The Sims* is probably a healthier way to go anyway.



Cathy Lu

Not-Getting-a-G4-PowerBook Editor

Q. What has been your favorite part of the rolling blackouts?

A. I liked the part where Dave Reynolds promised to buy us all titanium G4 PowerBooks so we could do our part and conserve energy. Hey, where is mine, anyway?

Q. Would you ride a bicycle-powered generator to run your Mac?

A. I would get Gilligan to ride the bike while I lay back in my hammock with the keyboard on my stomach and the monitor suspended above my head.



David Ross

Earth-First Art Director

Q. What has been your favorite part of the rolling blackouts?

A. Rolling blackouts?

What rolling blackouts? Wait, let me turn off my TV, stereo, and blow-dryer so we can talk.

Q. Would you ride a bicycle-powered generator to run your Mac?

A. And put my team of hamsters out of work? Forget it!





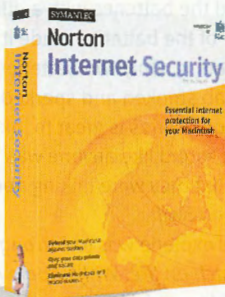
EVERY DAY, THIEVES BREAK INTO HOMES.

But not through the front door. They enter digital back doors inside your Macintosh®. And nothing is safe.

Not your private e-mails. Not your financial data. Not your personal Web habits.

Whether you have an always-on or a dial-up connection, you're still exposed. That's why you need a complete defense against cybercrime: Norton Internet Security™ for Macintosh. It safeguards you against hack attacks, e-mail viruses, Internet infections, and virtual vandalism.

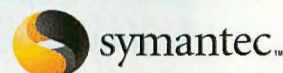
Plus, it contains our award-winning Norton AntiVirus™



for Macintosh, so you'll be protected from nasty computer bugs.

And, thanks to Norton™ Personal Firewall, you can prevent a cybercrook from trying to infiltrate your computer. (That's something your operating system or Internet provider doesn't do.)

Don't wait until some hacker discovers your Mac's vulnerabilities. Discover them yourself, at www.symantec.com/mac. You can use our special Symantec Security Check Tool™, while learning more about online peace of mind.



letters

Honesty is the best policy.

WRITE TO US: MacAddict, 150 North Hill Dr., Brisbane, CA 94005, or email to letters@macaddict.com.

FOR CD PROBLEMS: Go to <http://support.imaginemedias.com>.

FOR SUBSCRIPTION QUERIES: Call (toll-free) 888-771-6222.

WE'RE JUST HAMMING IT UP

This is only the second issue of MacAddict I've received, and I must say, what a mixed bag. The January issue contains 12 pages ("Look and Feel," p24) of nothing but sexy photos of Apple's current offerings—including an iBook that no self-respecting businessperson would be caught dead with in a boardroom and an overpriced cute little cube thing with no expansion abilities at all. That's 10 percent of your magazine wasted on information that won't directly benefit anybody. I just picked up a Sony VAIO for the office—it was only two grand, including a 128MB RAM upgrade, a real screen, and VGA out. It seems like you're so busy trying to be Apple's biggest cheerleaders that you can't be objective and honest about its products. I think you owe your readers more than that.—Peter Hamm

Reader reaction to the photospread is a worthy topic of debate, as is no doubt the correlation between iBooks and corporate self-esteem. What is not debatable, however, is our complete objectivity when

Recently Sighted

The van reads "The Macintosh take-away (pickup) center."

—Mark Sutton

(Picture taken in the Netherlands.)



Talk about a lemon.

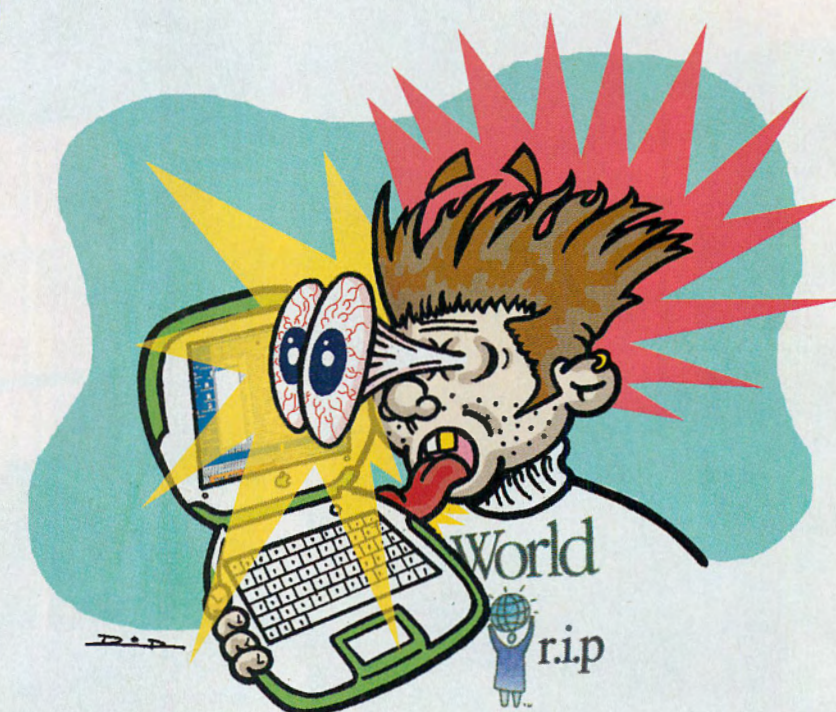


ILLUSTRATION BY DAVID "IT BURNS!" ROSS

Dave ran out of AquaNet and decided to try a different approach.

covering Apple's (our any other manufacturer's) products and our dedication to presenting content in new and entertaining ways.—Ed.

STUPID MAC TRICKS

If you ever wondered what would happen if you licked the power port of an iBook when it was turned on, wonder no more. Let's just say I got a free—and electrifying—hairdo.

—Tim Lawnicki

THE BOOK, THE BOOK, THE BOOK IS ON FIRE

I was watching your interview with Tony Hawk on The Disc in February. The interviewer asked a silly question about the PowerBook that supposedly blew up: 1. No PowerBook ever blew up or caught on fire. 2. It was a battery problem. 3. Apple replaced the batteries with a different type. 4. None of the batteries made it to customers. 5. Only two batteries in the Apple Lab smoked and sparked. This PowerBook series is great to joke about, but it didn't sound like anyone was joking or knew what they were talking about.

—Stephen Swift

Perhaps explode was too strong a word, but it did catch on fire. While Apple remedied the problem quickly, about 100 units made it to consumers—Ed.

A COOL MACHINE

I did it! I just ordered my new PowerBook G4. Bwah-ha-haaa. I just had to tell

someone. Now I can take it with me when I go to Antarctica this year and send digital movies home via satellite. Even cooler than the South Pole.—Edward Beale

WHAT'S GREEN AND PURPLE AND READ ALL OVER?

Your Web site's color scheme, slime green and purple, is disgusting. Try yellow gold and purple.—Thomas Lomonte

The slime green's staying.—Ed.

Y'EUDORA'D IT MORE THAN WE DID

Narasu Rebbapragada's review of Eudora 5.0 (Reviews, Feb/01, p51) was misleading and pretty poor in real-world value. The program beats Microsoft's Outlook in the following key areas crucial to business:

- Address Books: Eudora handles multiple address books with only a file copy for installation or update.
- Stationery: This is a very powerful, easy-to-use feature ideal for rolling out custom forms across an enterprise.

• Price: Eudora is free in sponsored mode. This review didn't take proper consideration of the product's intended audience.—Mark Duling

The product in question was the \$49.95 version of Eudora 5.0, and we targeted the review for MacAddict's primarily consumer audience. It did fail to mention the free lite versions of Eudora, which are sponsored (read: advertisement-laden). Thanks for making note of the latter.—Ed.

THE BENEDICT ARNOLD OF THE AD WORLD?

I am sure you already discovered this, but did anyone notice that the RealBasic advertisement (Feb/01, p49) has a prominently placed *Macworld* magazine in it? Not nice of the advertiser to promote a competing magazine.—David Gerson

WE MUST HAVE JETTISONED OUR STYLE BOOK

In your article "Input Device Freak Show" (*Get Info*, Feb/01, p18), you printed about that Kensington Expert Mouse Pro: "The buttons on top are ideal for jettisoning you to your favorite apps and Web sites." This is incorrect usage of the word "jettison." "To jettison" means to throw off provisions or other weight from a plane or boat. If you want to jettison your favorite apps, go ahead, but I think the majority of Mac users would rather the buttons *jet* them to their favorite apps.—Timo Andres

DON'T SHOOT THE MESSENGER

I was astonished that in your list of things invented in Scotland, you missed one precursor to the stuff you write about:

television. John Logie Baird of Glasgow is generally credited with the invention of the television tube and the first broadcast of moving images using radio waves. I once asked a grizzled early adopter why the invention, which Logie Baird came up with in the 1920s, didn't catch on sooner. "Och, laddie," he replied, "back then, thurr wisnae ennethin oan!"—Ed Ward

THE DRAMA CONTINUES

I read with interest my girlfriend's letter in your January issue (*Letters*, p10). In the time since she and her Performa 6400 persuaded me to ditch my ThinkPad and get this iMac DV, her murderous computer envy has cooled somewhat. However, we already have a new problem—the scanner is on her machine. She won't let me do my 40MB scans *there* and transfer them *here* using the home Ethernet I sponge off her cable-modem account—something about crashes and hard drive space. Is our love doomed?—Mark Bee
Perhaps you two should talk to each other about this.—Ed.

Introducing the iRobot-LE™

The iRobot-LE™ is the first multi-purpose home robot controllable from a web browser anywhere in the world. It is a powerful personal computer with sensors that allow it to understand the world around it.

You can move your mouse over the boxes to find out more about the iRobot-LE™



THAT'S WHAT WE'RE AFRAID OF

Just forward this link (above) to Ian—he'll know what to do with it: www.irobot.com/ir/index.asp.—Rock Norris

STOP DROOLING

So there I was, searching through the boundless Napster lists, when he appeared. Like a clean and pure G4 in a Pentium wasteland, the music of Digital Droo (*MacAddict's* digital media editor, Andrew Tokuda) has made the big time. Yes, thanks to caring, sharing people like maniacmacattack and Mr_Authority, every girl and boy can share the wonders of the music from a Mac. It

Harmonize
your world.

Software for your peace of mind.

computer companions that run in the background while you use your computer for other tasks



Bring the atmosphere of a garden into your workplace with

MindChimes®

virtual windchimes.

Or, surround yourself with the healing sounds of

OceanSongs®

virtual Surf Tones.

Check out
our software
on this
month's CD!

MindChimes®

www.mindchimes.com

SPECIAL OFFER:
Both Products
only \$14.99!

was like Christmas all over again. Keep up the great work and let's hear more Doo on The Disc!—*Tim Miller*

A VICTIM OF SPELLING CHECK

There is a serious, perhaps even catastrophic error in your magazine, which I feel must be corrected immediately. In "Size Matters" (*Get Info*, Feb/01, p15), you labeled the song "Mr. Roboto" "pretentious, melodramatic, synth rock-and-roll for the 'modern' man." However, this statement is misleading when further analyzed. The line in the song is not "I am the modern man"—rather, it is "I am the mod Ren [as in Renaissance] man." Your research department needs much assistance in its work, especially when dealing with such masterpieces as "Mr. Roboto."—*Peter Aronow*

We assure you that the author knew and wrote the correct lyric, but Microsoft Word's spelling check does not recognize ModRen as a word, so it insidiously replaced it with modern. We did not catch the substitution.—Ed.

OH, OK

I'm pretty special, y' know. I'm from Brisbane. Yep! But that's Brisbane in Australia. Cool, huh? Anyway, can you please, please, please put the Oni demo on The Disc next month? 75MB is way too big a file for my measly 56-Kbps iMac modem. Anyway, great mag.—*Charles Sale*
Check The Disc this month.—Ed.

OUR LAWYERS MIGHT NOT GO FOR THAT

Boy, was I thrilled when I saw the cover of the February issue. Now I can build my own applications! While it's great that I can make a checking program and a word processor, I was wondering if you wouldn't mind publishing some detailed plans for merging with every corporation in the Western Hemisphere legally and then conquering the world under one supreme body. I'd really appreciate it.—*Bill G. Ates*

GRIPEFEST 2001

You finally managed to piss me off twice in one issue! First of all, Greg Orlando's review of Beachhead 2000 (*Reviews*, Feb/01, p53) is way off the mark. Monotonous?! Do you think the Germans at Normandy thought the Allied advance was too repetitious? One has to wonder what level the reviewer made it to, or was he just cannon fodder? The second thing is that you're dissing Led Zeppelin! In

"Size Matters" (*Get Info*, Feb/01, p15). Hair rock?! Sloppy playing?! These guys are the greatest band that ever graced the Earth. Man, I might go PC.—*Joe Courtney*

BANANAS OVER APPLE

One day I was looking at the old Apple logo and compared it to the iMacs, and I noticed that the iMacs come in green (lime), orange (tangerine), red (strawberry), purple (grape), and blue (indigo). On the old Apple logo there are six colors, and I only see five out of the six colors on iMacs. I don't see a yellow one. I was anxious to contact you and ask whether Apple is going to come out with any lemon- or banana-colored computers.

—*EerieEWOKIV@aol.com*

PUCK YOU

I have chosen to come out of the mouse closet in your magazine. I have to admit I love the Apple's round mouse. Is this so wrong? Why do people hate it so? The first time I saw one, I got this warm, fuzzy feeling. It's all round and curvy! It's like my very own flying saucer! (Not really, but you get the picture.) You can't convert me!

—*Scott Pitman*

YOU KNOW YOU'RE A MAC ADDICT WHEN YOU WRITE...

Why does my beloved "You Know You're a Mac Addict When..." keep on disappearing? A couple issues ago it disappeared for two issues or so, then came back for one, and then it was gone again in the February issue! I demand it back within two issues or I will sue, because I had just thought up a whole bunch and mailed them all in.

—*Bhine Airie*

We don't always have enough submissions for a monthly column, so we wait until we can put together a truly humorous selection.—Ed.

UNFORESEEN HAIR CHANGES

Cheryl's hair—what happened? It looks shorter and darker. See what happens when our favorite former editor in chief stops showing up in staff videos? We lose track of her hair. Please, please—more Cheryl, more often. It would just be good karma for the mag.—*Joey Nelson*

SCROLLING SUPPORTERS

While many of your suggestions in "The Dirty Dozen" (Feb/01, p36) were spot on,

you really missed the boat by fingering smart scrolling. The double arrow saves time and mouse movement, putting off repetitive stress injuries that much longer. Your first argument—that if you miss your intended arrow, you end up scrolling in the opposite direction—is entirely specious. Don't impose your poor sense of spatial relations on us!—*Neil Robinson*

AN IMAC-ULATE VICTORY

I have dubbed myself the king of making things work. Here's my story. I was attempting to get a MIDI keyboard to work with my Mac. So I went over to Radio Shack and bought the MIDI keyboard. Then I asked the friendly man at the counter if I could get it to work with my Mac. When I said I owned an iMac, he threw back his head and laughed. I wasn't amused, but in an angered rush to prove him wrong, I bought a USB-to-game port adapter and a game port-to-MIDI adapter. I connected the two adapters and plugged in the keyboard on one end, the iMac on the other, and it worked. I called up the guy and laughed at him. Another bold step for Mac-kind.—*Dan Cashion*

You Know You're a Mac Addict When

...people give you a Mac-centric pickup line (it brings new meaning to "You are the Apple of my eye").—*Eric Holliday*

...you feel you've got some special bond with Jeff Goldblum movies.—*Niklas Hjelm Smith*

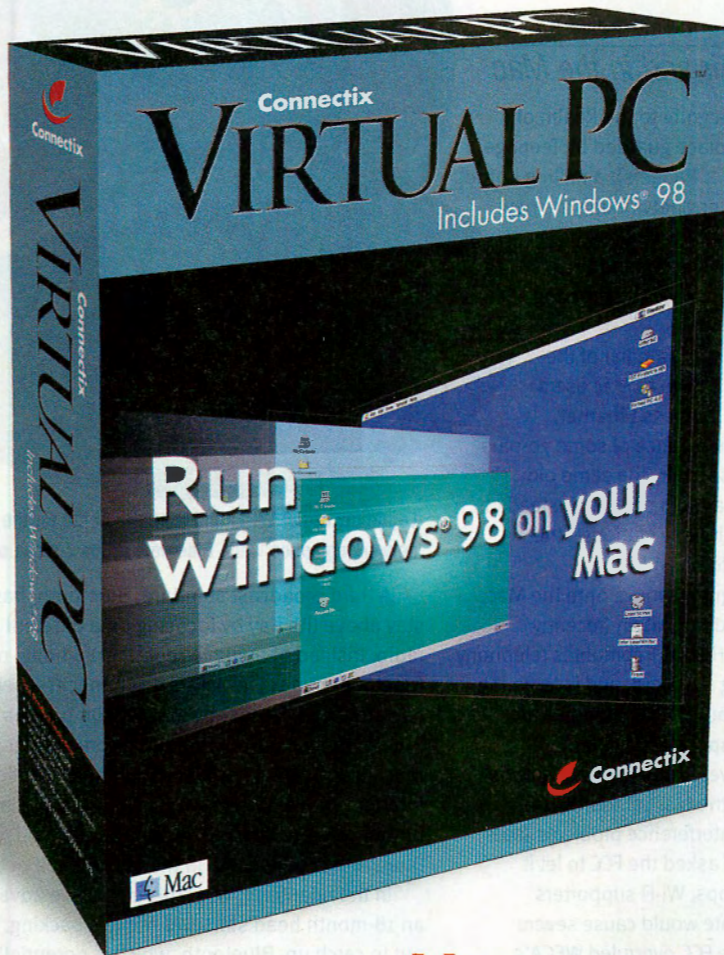
...you turn on your iMac at night because the hum of the hard drive helps you go to sleep.—*HRDWYR@aol.com*

...you think the song "Tangerine" by Led Zeppelin is about your computer.—*Kevin "Led Head" Sawicki*

...insist on taking the *MacAddict* tour of Cupertino (complete with photo outside Apple) on your overseas trip from Australia to San Francisco!—*Hamish Blair*

...you rearrange all of the magazines in the supermarket so *MacAddict* is in front and all the PC magazines are stuffed way in the back.—*Jamey K.*

A More Powerful Virtual PC



Now, up to twice as fast!

Virtual PC 4 puts a fast, powerful PC inside your G3 or G4 Mac, enabling you to run PC applications, access PC networks, share files with PC-based colleagues, and use PC-only services and applications. The latest version of this award-winning software from Connectix runs PC operating systems up to twice as fast as previous versions, so it's easier than ever for Mac users to stay compatible with the PC world.

What's new in Virtual PC 4? Improved features in Virtual PC 4 include faster performance, larger disk images, easier to use interface and help system, and the ability to run multiple PC operating systems simultaneously. Run PC software faster and better than ever with Virtual PC from Connectix. Go to www.connectix.com for more information or to purchase Virtual PC.

© Copyright Connectix Corporation. Connectix and Connectix Virtual PC are trademarks of Connectix Corporation. All other trademarks are property of their respective holders.



Wireless Wars

Three Systems Go on the Air and in the Mac

Now that the dot-com craze has gone to the Realm of Spent Fads (a dim, shadowy place guarded by Teenage Mutant Ninja Turtles and Power Rangers), a milling horde of venture capitalists has declared wireless networking the new Hot Thing. Thanks to the influx of money, two wireless standards will be competing for the airwaves around your Mac within the next few months, with a third noncompeting standard possibly arriving next year.

Because it has Apple's backing, the most familiar of the three broadcast systems is Wi-Fi, better known to Mac users as AirPort. Wi-Fi is backed by WECA (the Wireless Ethernet Compatibility Alliance, www.wi-fi.org), an alliance of some 70-plus companies, including Apple. Wi-Fi is essentially the same old Ethernet, modified slightly to work over a radio network instead of via wires. Just mentally replace hubs with base stations—the networking layout is the same as it would be with wires.

A rival system, HomeRF, has just begun its move onto the Mac, thanks to longtime Mac networking vendor Farallon (recently acquired by Proxim, www.proxim.com). HomeRF combines telephony and networking into a single networking standard, and is targeting home users more directly than Wi-Fi. Around 80 companies are backing HomeRF (WECA and HomeRF supporters overlap significantly—many companies are actively targeting both groups).

The rivalry has been bitter, because the two standards use different radio methods with potential interference problems (see “Mixed Signals,” below). When HomeRF asked the FCC to let it increase its network rate from 2 to 10 Mbps, Wi-Fi supporters objected, arguing that the higher data rate would cause severe interference. Fortunately for HomeRF, the FCC overruled WECA's objection last summer; the problem's extent remains in doubt.



Leggo my radio! Wi-Fi and HomeRF battle for the wireless networking space while Bluetooth grabs a niche of its own.

A third broadcast standard, Bluetooth, has so far managed to stay above the fray by focusing on a different application of packet radio. Instead of trying to replace traditional networking cables, Bluetooth has set its sights on connecting peripheral devices such as notebooks, headsets, and cellular phones wirelessly. Because Bluetooth focuses on peripheral connections, it broadcasts with much less power than Wi-Fi or HomeRF, so it doesn't substantially interfere with either networking standard. Bluetooth for the Mac is further off—but Keyspan is on the case, and hopes to get initial Bluetooth products out in the second half of this year.

In the near term, Wi-Fi has a massive advantage on the Mac with an 18-month head start and Apple's backing. HomeRF will be hard put to catch up. Bluetooth, which is potentially very cool, looks like a winner (though it's at least a year off).—IS

Mixed Signals

If wireless networks used traditional means to broadcast, they wouldn't work very well. Such broadcasts allow just a single broadcaster on any given frequency at a time (if both sides of a conversation tried broadcasting at once, neither side would get anything). Worse, naturally occurring interference on that channel could knock out the entire network. What's a wireless card to do?

Two methods in common use allow multiple broadcasters to share a frequency range without encountering interference. Wi-Fi uses a scheme called Direct Sequence Spread Spectrum (DSSS). A DSSS broadcast encodes the signal with a pseudo-random sequence, spreading it across a much broader frequency range than a traditional signal. This wide range means that interference at any specific frequency leaves most of the broadcast intact and ready for reconstruction by receivers.

HomeRF uses a rival technique called Frequency Hopping Spread Spectrum (FHSS). An FHSS broadcast more closely resembles a traditional broadcast, but it switches broadcast frequency in a pseudo-random fashion at fixed intervals, thus avoiding interference by hopping away from it.

The problem is that operation of a large number of FHSS broadcasters (for example, a really active FHSS network) can cause severe interference with DSSS broadcasts in the same frequency range (in theory, with many individual hoppers, an FHSS network can generate strong interference across the entire DSSS signal, defeating the spread's purpose). The actual severity of the problem isn't currently known—there aren't enough competing HomeRF and Wi-Fi networks to let anyone know with certainty what will happen.

Mac OS X Checklist

Should You Install It?

With the first release of Mac OS X imminent, the big question has shifted from "Where shall we eat lunch?" to "Should I install OS X on my Mac?" Well, sharpen your pencils, geek people, and get ready to look over our Mac OS X checklist. Check the items with which you agree and compare the total with our key at the bottom.—DR

TOTAL NUMBER OF CHECKMARKS

0: Don't even think about installing Mac OS X.

1-3: Wait a year, and then think some more about installing it.

4-6: Consider installing OS X later this summer, after others have had a chance to work out the kinks.

7-9: Pick up a copy after March 24 and start having fun!

10: Why haven't you put in your preorder yet?



OS X Checklist ☒

- ☐ I don't depend on hardware peripherals to get my work done.
- ☐ I want the latest and greatest, even if I have to maintain two operating systems on my Mac.
- ☐ I just want to *lick* rounded blue buttons.
- ☐ I plan on running some kind of server.
- ☐ The prospect of not being able to run a few of my programs doesn't send me to the liquor cabinet.
- ☐ I've used some flavor of Unix before.
- ☐ If my Mac crashes just one more time, I'll throw it out the window.
- ☐ I don't mind when others move my stuff around.
- ☐ I can't stand life without the classic console game Rogue.
- ☐ I own a multiprocessor G4.

GeForce versus Radeon

Oh Yeah—What Happened to 3dfx?

After years of using ATI's video chips in almost every Mac that shipped, Apple has decided to change that exclusive relationship by introducing nVidia cards as standard in high-end Mac G4 towers, leaving the ATI Rage 128—not the Radeon—as the default card in low-end G4 towers. (You can still get the Radeon as a build-to-order option in the Apple store at <http://store.apple.com>). So which of the high-end video cards should you spring for in your new high-end Mac G4? Here's how the Radeon and GeForce2MX stack up.

Radeon

32MB of video memory
DVI and VGA output
AGP 2X
Supports OpenGL, QuickDraw 3D, RAVE APIs
DVD playback

GeForce2MX

32MB of video memory
DVI and VGA output
AGP 4X
Supports OpenGL, QuickDraw 3D, RAVE APIs
DVD playback

Based on features, it's a close call. While the Radeon is capable of beautiful high-performance output, ATI has hammered on Mac users with delayed products and subpar drivers. The GeForce2MX, on the other hand, is a little speedier (and we've been told that hackers can overclock the heck out of it). Plus, its presence in the Apple Store means support will be easier to come by if nVidia were to meet with misfortune in a dark alley. For now, you should grab the GeForce2MX—you'll get great performance. We'll be pitting the two cards against each other in a Texas steel-cage death match in an upcoming issue.—DR

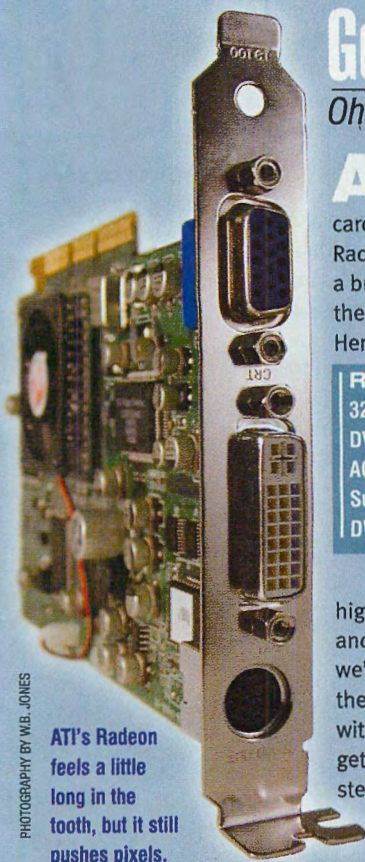
Oh 3dfx. Wherefore Art Thou?

Over the years, nVidia and 3dfx enjoyed a contentious and litigious rivalry—that is, until nVidia bought 3dfx's core assets (which include patents, trademarks, and chips in inventory) last December. Besides ending a patent infringement lawsuit between the two

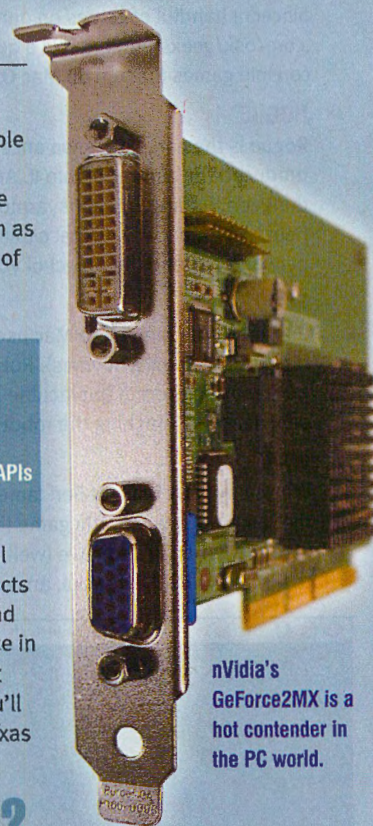
companies, the \$70 million deal also put an end to the new and promising relationship 3dfx had been building with Mac users. 3dfx itself is no more.

So where does that leave 3dfx card owners if they need support? Well, in the proverbial hard place. NVidia didn't buy

3dfx's board business, so it won't be providing help. Your best bet is to try contacting what's left of 3dfx, but you'd better do it soon. As for Mac OS X support or DVD playback for 3dfx cards, don't give up hope, but don't hold your breath, either.



ATI's Radeon feels a little long in the tooth, but it still pushes pixels.



nVidia's GeForce2MX is a hot contender in the PC world.

Console Gaming on X

Think VT100, not PS2

When Apple built OS X atop a system with built-in BSD Unix, geeks everywhere began slaving at the thought of all the command-line software that was suddenly only a recompile away. Want to do Web serving? No problem—just run Apache. Want to set up IRC channels? No worries—ircd (a public chat server program) just needs a little tweaking to run happily atop OS X. A MUD (or text-based multiuser dungeon)? TinyMUSH compiles smoothly.

And games? Well, sure, if you're willing to overlook a certain lack of graphical finesse. Computer gaming has been going on for a long, long time—much longer than those of us who were first introduced to gaming on microcomputers or in video arcades may realize. A number of these early command-line games (such as *Rogue* and *Robots*) have survived the test of time, and continue to be outstanding games even now, more than 20 years after some of them were written!

To get you started in your command-line gaming, we've placed a handful of games on our Web site at www.macaddict.com/osx/geeks.html. Here's a quick look at three of the best console games that run on Mac OS X.—JS

ROGUE

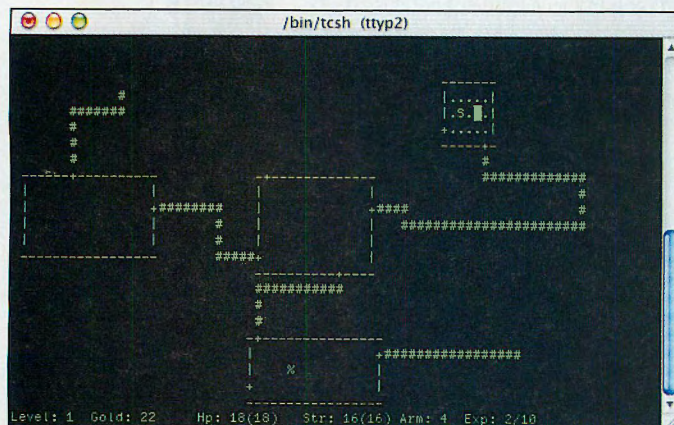
Rogue is the earliest known ancestor of the game type that produced the current *Diablo II*. An adventurer roams through a dungeon, finding weapons, armor, potions, and spells that can help him on his way. Brutal capital letters—er, monsters—stand between you and the object of your quest: the Amulet of Yendor.

ROBOTS

Possibly more familiar to Mac users as *Daleks* (pronounced *dahr-leks* for non-Whovians), *Robots* pits the hero against ever-increasing legions of implacable but moronic robots. Your hero's only defense? Crashing the robots into one another.

WARP

Written by Larry Wall (of Perl fame), *Warp* is a real oddity—a real-time 2D space-battle game that uses ASCII graphics. It's also frighteningly addictive (well, it's frightening to get addicted to a screen full of asterisks, anyway).



It may be hard to imagine, but without this game *Diablo* might not have come into being. Show Grandpa *Rogue* a little respect!

They're Small, Yet Very Big

Teeny-Tiny Storage Is on the Way

Tell the truth—how long have you been listening to the same 10 songs on your portable MP3 player or carrying the same 20 digital pictures on your CompactFlash card? As cool and portable as these devices are, transferring audio and image files on and off that one single memory card is a pain. And at about \$50 per card, owning several and swapping them in and out can get pretty expensive.

A handful of data storage manufacturers are addressing the need for cheaper, smaller storage media. Here's a sample of what's coming down the pipe.—NR

The DataPlay Disc

About the size of a book of matches, the 500MB DataPlay disc will cost about \$12, providing a low-cost alternative to expensive SmartMedia and CompactFlash cards. According to DataPlay, one 500MB cartridge will store 11 hours of MP3-quality music, 5 hours of CD-quality music, 160 high-resolution stills, or 2 hours of MPEG-4 video. Imation (www.imation.com), which is branding the media, expects DataPlay discs to be available in the third quarter of 2001.

The real question is which hardware manufacturers will support the new media standard. Of the 20 companies collaborating with DataPlay, only a handful (such as S3) make devices for the Mac platform. For now, Imation is promoting DiscGo, a self-hosted, USB-connected device that can transfer data from a CompactFlash or SmartMedia card to the DataPlay disc without computer intervention. Imation expects DiscGo to be available in the third quarter of 2001 for \$200 to \$300.



With optical media the size of a quarter, the DataPlay system could be the low-cost alternative to CompactFlash and SmartMedia cards, as long as enough hardware devices support the standard.

Peerless

Iomega (www.iomega.com) is offering its own standard for compact data storage. The Peerless storage system consists of disks (available with 5GB, 10GB, and 20GB of storage) and a base station (essentially the drive), which transfers data from the disk to your Mac at rates of up to 15 MBps. The Peerless comes with a USB modular interface, which you can detach and swap out with SCSI and FireWire modules, available separately. Iomega expects to ship the Peerless by midyear 2001, and estimates that disks will start at \$129.95 and the drive itself at \$249.95.

About the size of a PDA, Peerless disks hold out the promise of a cheap, portable solution for gigabytes of storage.



droolworthy

Hollywood DV-Bridge

Dazzle Multimedia www.dazzlemultimedia.com \$299.99

Oh, the woes of being a digital video enthusiast in a primarily analog world. Those Luddites clinging to their VCR technology can't view your movies—and more important, you can't borrow theirs. And those dusty VHS tapes just won't fit into the sleek slot of your Mac's DVD drive. Alas, what's an early adopter to do?

Dazzle Multimedia hopes you run out and buy its recently released Hollywood DV-Bridge, which converts analog video into DV format, ready for viewing and editing with a nonlinear editor such as iMovie or Final Cut Pro. Hollywood DV-Bridge also works in reverse, letting you export your DV flicks into analog format for viewing on a traditional VCR. \$300 is a small price to pay for the ability to rejoin the mainstream video world, as backward as it may be.—NR



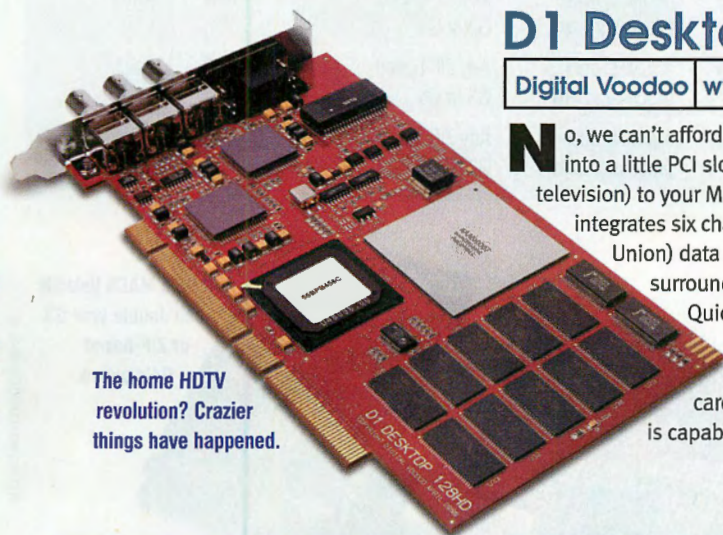
It's lonely at the top. With this sleek little DV-analog converter, you can rejoin the analog masses.

D1 Desktop 128HD

Digital Voodoo www.digitalvoodoo.net \$9,995

No, we can't afford this device either, but it's really cool. This little PCI card, which fits right into a little PCI slot, lets you import full, uncompressed HDTV (yes, that's high-definition television) to your Mac. The card's HDTV support allows real-time film-resolution editing and integrates six channels of AES/EBU (Audio Engineering Society/European Broadcasting Union) data at the television-sampling rate of 48kHz audio (and it's even 5.1 surround sound ready). For your more mundane video needs, the card uses QuickTime technology, supporting export to Web and DV formats as well.

OK, back to reality. Sure, you can edit HDTV on a G4 (the card requires a G4 processor), provided your machine has an Ultra III SCSI card and a RAID with eight hard drives. Still, it's nice to know what your G4 is capable of, isn't it?—NR



The home HDTV revolution? Crazier things have happened.

TECHinfoTIDBITS

Random Notes from the TIL

Font Folders Xplained

The Mac OS X Public Beta has stymied some people when it comes to adding fonts. Longtime Mac users reason that fonts belong in the Fonts folder inside the System Folder, as in former versions of the Mac OS. Unfortunately, these folks quickly realize the OS X system simply won't let them put fonts in there.

OS X actually has a fair number of Fonts folders scattered around. The folders give you more control over which users get to use which fonts than the Mac OS has traditionally provided. The nearest equivalent to the old Fonts folder is the one in the Library folder on the startup disk; fonts in there are available to everyone

on the system. Users have their own Fonts folders in their personal Library folders; fonts placed in a specific user's Fonts folder are available only to that user.

In the Network directory that sits right at the Computer level (along with all the hard drives), you'll find yet another Library folder containing yet another Fonts folder. You can set up a NetInfo domain (we'll describe how in an upcoming issue) to make those fonts available to everyone in the domain. So figure out who needs your fonts (or generously put them all into the root-level Library folder's Fonts folder), then stick the fonts in the appropriate Fonts folder.—IS

This tidbit was brought to you by the good folks who produce Apple's Tech Info Library at <http://til.info.apple.com>.

Double Your G4, Double Your Fun

Create a Mac with Two Brains in Your Own Home

Just when Apple had us convinced that two brains are indeed better than one, the Cupertino company pulled the plug (for the most part) on its dual-processor machines, offering just one 533MHz multiprocessor G4 as a build-to-order option. Enter upgrade card powerhouses Sonnet Technologies and XLR8. Both will soon release dual-processor G4 upgrade cards for everything, from your beige G3 on up to the newest G4s. PowerLogix is also expected to join the dual-processor party in February.

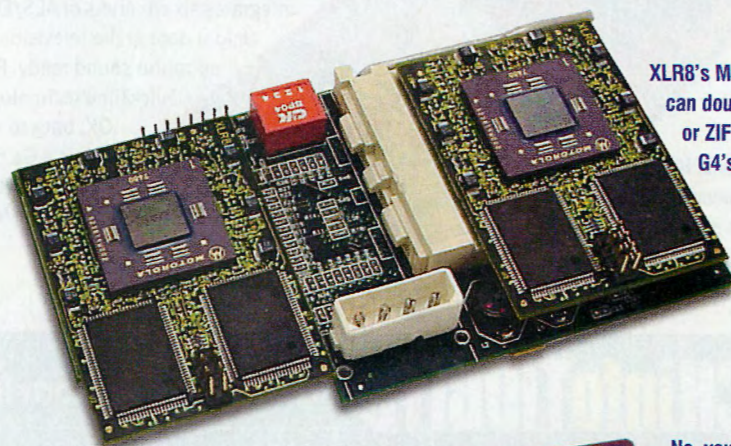
Sonnet and XLR8 are taking different approaches. Sonnet's solution, the Encore/ST G4 Duet, is for any G4 with an AGP graphics slot. Meanwhile, XLR8's card, the MACH Velocity, comes in two configurations—a dual processor card option as well as a single processor card option, which includes a free ZIF socket to fit XLR8's MACH Speed G4 MPE card. Both configurations are compatible with any ZIF-based G3 or G4.

But at \$1,449 for the most expensive of these cards, we're not talking couch change here. So why buy one of these babies? Well, an Apple 533MHz dual-processor G4 will cost you \$2,499; with one of these cards, you can upgrade to almost the same specs as that G4 for \$1,000 to \$1,500. The decision to buy also depends on how you use your Mac. If the most important thing you do is write bitter letters to the USDA or spam others with email pictures of your cat, you're not going to get much out of a dual processor until you upgrade to OS X, which is designed to use multiple processors very well. However, if you're a heavy user of pre-OS X apps that can take advantage of multiprocessing (such as Photoshop, Final Cut Pro, Premiere, and Cinema 4D) or if you plan to take your chances on OS X, then these cards should give you a noticeable speed increase.

As for OS X compatibility, both companies claim there's no problem. You should be able to upgrade to both the Encore/ST Duet and OS X 1.0, no software required. OS X drivers for the MACH Velocity should be available from the company's Web site, either on the day Apple releases the final version of X or soon thereafter. —CL

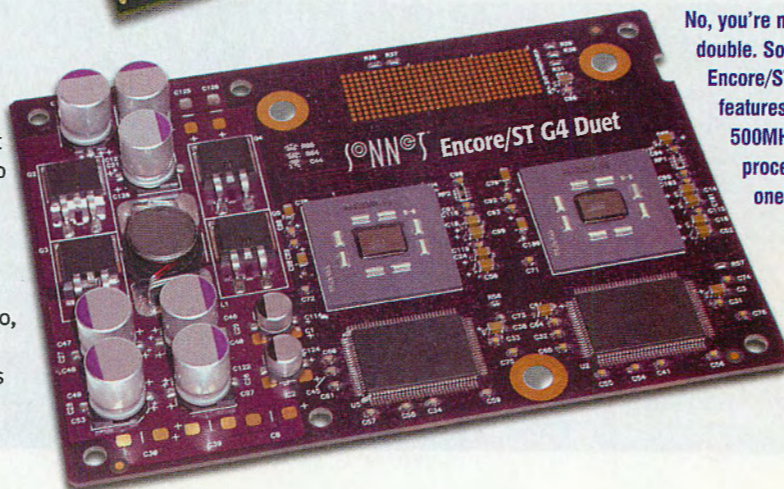
Your Dual Options

CARD	PROCESSOR	COMPATIBILITY	PRICE	AVAILABILITY
Encore/ST G4 Duet	500MHz dual-processor card	Any AGP G4	\$1,000	Late Q1
Single 400MHz MACH Velocity	400MHz single-processor card with two ZIF sockets	Any ZIF-based G3 or G4 with a MACH Speed G4 MPE ZIF card	\$649	March
Single 450MHz MACH Velocity	450MHz single-processor card with two ZIF sockets	Any ZIF-based G3 or G4 with a MACH Speed G4 MPE ZIF card	\$699	March
Single 500MHz MACH Velocity	500MHz single-processor card with two ZIF sockets	Any ZIF-based G3 or G4 with a MACH Speed G4 MPE ZIF card	\$849	March
Dual 400MHz MACH Velocity	400MHz dual-processor card	Any ZIF-based G3 or G4	\$1,049	March
Dual 450MHz MACH Velocity	450MHz dual-processor card	Any ZIF-based G3 or G4	\$1,149	March
Dual 500MHz MACH Velocity	500MHz dual-processor card	Any ZIF-based G3 or G4	\$1,449	March



XLR8's MACH Velocity can double your G3 or ZIF-based G4's punch.

PHOTOGRAPH COURTESY OF XLR8



No, you're not seeing double. Sonnet's Encore/ST Duet features two 500MHz G4 processors on one little card.

PHOTOGRAPH COURTESY OF SONNET

Going, Going, Gone!

Collecting Weebles Has Never Been So Easy

If you're a Mac addict and an auction addict, you should be aware of the slew of shareware out there that can make the auction process a little easier and a lot more fun. These programs range from simple windows that monitor prices to elaborate databases for professional sellers. Here are a few worth checking out.—Kevin Savetz

PROGRAMS FOR SELLERS

Auction Monitor

(\$19.95 shareware, www.blackmagik.com/auctionmonitor.html)

This handy application for eBay sellers lists the items you're selling, the current high bid on each, the time remaining, and the high bidder's name and feedback rating—all in a tidy, compact window.

Pre-Lister

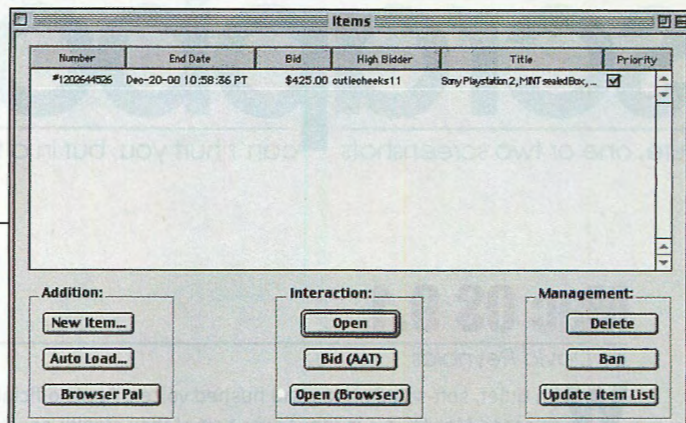
(\$35 shareware, www.blackmagik.com/gavelware.html)

Pre-Lister is an eBay auction listing tool from the author of Auction Monitor. It lets users create auction listings offline, saving listings as completed Web forms the user can open with a Web browser and submit later. A Favorites menu provides quick access to frequently used categories. The unique fee-saver feature reviews your minimum bid and reserve price and suggests ways to reduce listing fees. Free add-ons to the program are available to registered users.

AAuctions

(\$10, www.basw-soft.com)

Frequent sellers who use eBay's Mister Lister bulk uploading tool will appreciate this Mac-compatible equivalent of the Windows-only Mister Lister Composer. Use it to create batch files of auction listings, then upload them to eBay in one fell swoop.



Looking to keep track of items on eBay? Auction Action Tracker can help you get that PlayStation 2 for only a slight markup.

Auction Information Database

(\$29.95 shareware, www.epigroove.com)

This full-featured application for eBay can send email to auction winners, monitor feedback, and manage Dutch auctions. Its reporting tools keep track of who has paid and to whom you've shipped packages. For bidders, AID will monitor interesting items, then keep track of the steps in the process of winning.

PROGRAMS FOR BUYERS

Auction Action Tracker

(\$10 shareware, www.winternovelty.com/aat)

Auction Action lets you organize, monitor, and bid on eBay auctions. Geared toward buyers, the program keeps an updated list of auction items, including the current high bids. You can place bids from within the program, too, although it isn't a sniping tool.

Microsoft Internet Explorer 5

(free, www.microsoft.com/mac/ie/default.asp)

The Mac version of Internet Explorer includes Auction Manager, a handy feature for bidders. It works with eBay, Yahoo, and Amazon auctions, showing an alert or sending an email message when someone's outbid you.

The Return of Red Ink

Then and Now—We Prefer Now

If you've ever wondered what the difference was between the Apple of yesteryear and the Apple of today, you have only to look at the difference between Apple's first quarter of 2001 and its second quarter of 1996. Both quarters showed losses, and both losses had the same root cause: Overconfidence led Apple to overproduce a relatively unpopular Macintosh model (in 2000 it was the Cube; back in 1995 and 1996 Apple overbuilt the low-end Performa series). Because expected demand didn't materialize, inventories built up—an unhealthy situation in a computer market where the hottest system of six months ago is today's clearance item.

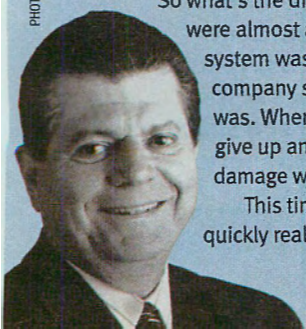
So what's the difference? By Q2 1996, Apple's inventory woes were almost a year old. At the time, Apple's accounting system was sufficiently disorganized so that it took the company some time to realize just how bad the problem was. When Apple, under Dr. Amelio, realized it had to give up and write off the burgeoning inventory, the damage was done—and Apple had lost \$740 million.

This time around, there was no such lag. Apple quickly realized the Cube wasn't selling as well as

expected after the fourth quarter of 2000, and took aggressive steps to cut its embarrassing glut of Cubes. The medicine was harsh—Apple took an operating loss of \$247 million on the quarter—but effective. Apple's channel inventory returned to the traditional five and a half weeks, and Apple expects to turn a slight profit next quarter.

There's a second difference as well. Back in 1996, Apple had a bare \$592 million in cash and short-term investments—just barely enough to pay Apple's revolving bills. At the time, even a moderate loss could really hurt! This time around, Apple has more than \$4 billion in cash and short-term investments—making what would once have been a devastating loss more like a pinprick.

The really telling difference is the change in revenue. Back in 1996, Apple took in \$2.2 billion on the quarter, compared with only \$1 billion in the present quarter—and yet the Apple of then was in dire straits indeed, while the current Apple is merely regrouping. The leaner, meaner Apple is the result of several painful rounds of layoffs at the company—and it's what's keeping Apple alive.—IS



scrapbook

Sure, one or two screenshots can't hurt you, but in a flock...

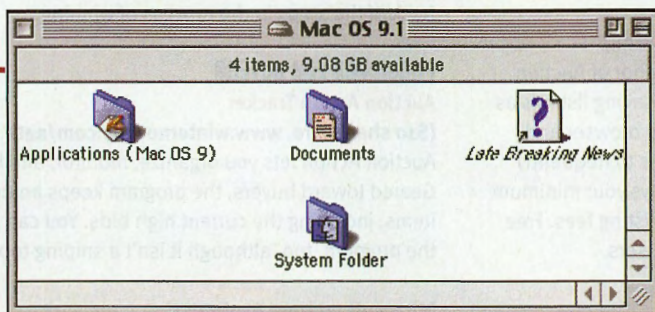
Mac OS 9.1

by David Reynolds

With quiet, soft-soled shoes and hushed voices, Apple officials released Mac OS 9.1 in January as part of their stealth operating system project. Aside from a ton of bug fixes, Mac OS 9.1 has a few new features—some are cool, while some will leave you wondering. Here's our montage of the best and worst of 9.1.

Keep It Simple

The top level of a Macintosh hard drive was starting to look pretty crowded, what with all of the folders your Mac wanted to keep there. Now there are just four items: Applications (Mac OS 9), Documents, System Folder, and an alias to the Late Breaking News help page. Even QuickTime and other Apple tidbits respect the new folder structure, installing themselves in the appropriate place inside the Applications folder.

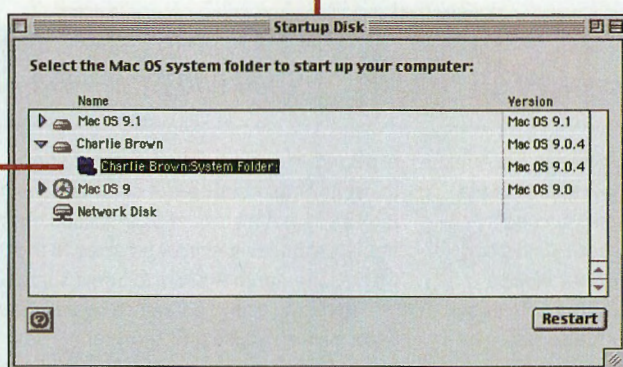


Start It Up

To get ready for Mac OS X, Apple has revamped and modernized the Startup Disk control panel to show you all volumes that might contain system software and what version of the system software is installed on each. It even includes a convenient Restart button.

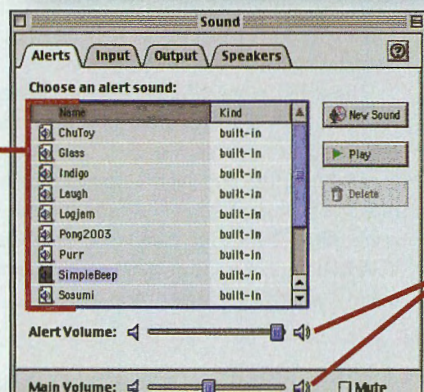
Selectable System Folders

If a hard drive has more than one System Folder on it—say, both a Mac OS 9 and a Mac OS X version—you can use this feature to select which one your Mac should use when booting.



Missing Sounds

Notice anything different? Mac OS 9.1 is missing both the Quack and the Wild Eep alert sounds, so you'll have to record your own versions or grab them from a previous OS if you really like them.

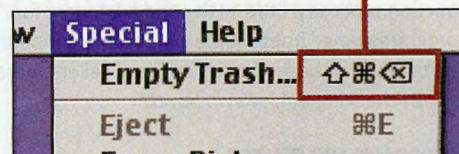


Separate Volumes

Finally! In Mac OS 9.1, you can set a different volume level for alert sounds and overall system sounds—no more making your ears bloody when you're listening to a CD via headphones and your Mac beeps at you.

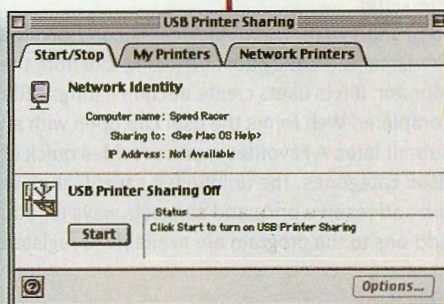
Handy Command Key

Keyboard jockeys, celebrate! You can now empty the Trash using the Command-Shift-Delete combination.



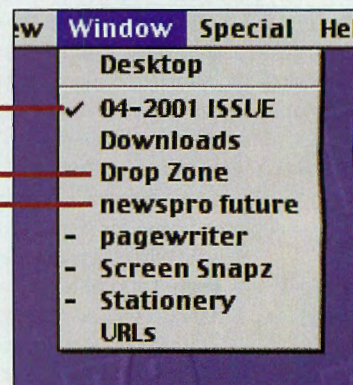
Share and Share Alike

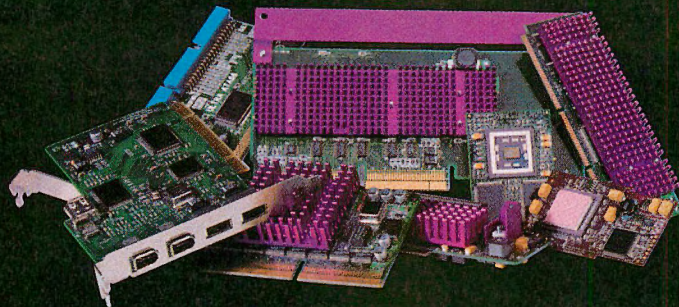
Mac OS 9.1 installs USB Printer Sharing by default—this lets you share your USB printers with others on your network.



Window Menu

Mac OS 9.1 includes a new Window menu that not only lists all open menus, but also lets you bring a particular window to the front by selecting it. The flag to the left indicates the state of any given window—a checkmark indicates that it's the active window, a dash indicates that it's minimized, and no icon at all indicates that it's floating in the background.





Our family has expanded!

We just added several innovative ways to upgrade your Macintosh®—even more are on the way! Try our Tempo™ Ultra ATA66 PCI host adapter card, our new Tempo RAID66 ATA hardware RAID controller card and our Tango FireWire®/USB combo card. Don't miss our latest additions — the Crescendo™/7200 G3 and G4 processor upgrades. Depend on Sonnet for simply fast Macintosh enhancement products. To learn more, call 1-800-786-6260 or visit our website at:

www.sonnettech.com/ma

Now available!

Crescendo/7200 G3 & G4



SONNET™
SIMPLY FAST™

10

Things You Don't Know How to Do

(AND PROBABLY SHOULDN'T)

You undoubtedly use your Mac for many important, productive tasks, like balancing your checkbook, buying birthday presents online, or just jotting down random thoughts and ideas. Well, the following seven pages will help you out with none of those mundane daily activities.

Instead, we're here to tell you about the things other Mac magazines won't. Things that would give Steve Jobs heart palpitations. Things people get arrested for (when they use such knowledge *inappropriately*). In other words, if you're looking to be more efficient and productive with your Mac, you're in the wrong place.

Some of these how-tos are for your own benefit—for instance, how to stretch that ever-annoying time limit on demos or scam free music and movies from sites other than Napster. Others are potentially dangerous, such as overclocking your G3 or using your Mac to play hooky from work (after all, you might get caught). And finally, some involve finding an unsuspecting victim (all the better if it's someone you don't like). The possibilities are endless—from taking control of that person's Mac remotely to sending a forged email to your victim's account.

Finally, here's our disclaimer (you knew it was coming): We don't in any way endorse the use of any of these tutorials for illegal or illicit activity. This is purely to educate you on what you can do with your Mac. We also hereby do not accept any responsibility for lost friendships or mental breakdowns that might occur as a result. Now that we've absolved ourselves, it's time to dig in—we won't disappoint you. And please, be good out there. The world is a cruel enough place already.



Find BBEdit 4.6
Lite, Coaster
1.1.2, SoundApp
2.7.3, Hotline
Client 1.8.4, and
Keystroke
Recorder 2.0.1
on The Disc.



The Dirty Deeds

Send Anonymous Email	page 28
Reroute a Web Address	page 29
Scam Passwords	page 29
Overclock Your G3	page 30
Make That Demo Last Forever	page 31
Get Free Music and Movies from the Net	page 31
Play Hooky from Work	page 32
Run Your Own Hotline Server	page 33
Forge an Email Message	page 33
Control Someone Else's Computer	page 34

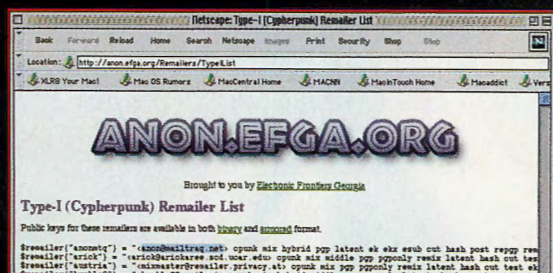
by Buz Zoller
illustration by Tim Gabor

Send Anonymous Email

There are many times when you might find it beneficial to send untraceable email so the reader—or someone else's sneaky, prying eyes (ahem, IT)—can't figure out where the message came from. Of course, people use anonymous email for all kinds of annoying activity, such as sending spam (please don't!). But this ability can also come in very handy—for instance, if a highly confidential anonymous email blowing the whistle on some dirty corporate or political secret gets intercepted in transit, companies can only trace it to the receiver.

1 First you need to find an anonymous remailer. There are hundreds, but they lead a spotty existence—a remailer may work one day, then disappear the next. Luckily a wonderful Web site at <http://anon.efga.org> keeps track of many remailers and posts their current status. For this example, we will be using Cypherpunk, the most popular type of remailer and the easiest to use.

Next to the name and address of the remailer you'll see a list of codes. For our example we are specifically looking for a server that does *not* list "pgponly" (because we are not going to encrypt our message), and that *does* list "cpunk" (meaning it is a Cypherpunk server) and "hash" (meaning it accepts special hash-mark [#] formatting). It may take some experimenting to find a remailer that works consistently for you. The important thing to get from this site is email addresses for some remailers, like the one shown in the To box in step 3. You may want to create a SimpleText document and paste in a few possible remailer addresses.



Surf on over to <http://anon.efga.org> and find statistics on tons of remailer services.

Emailers Anonymous

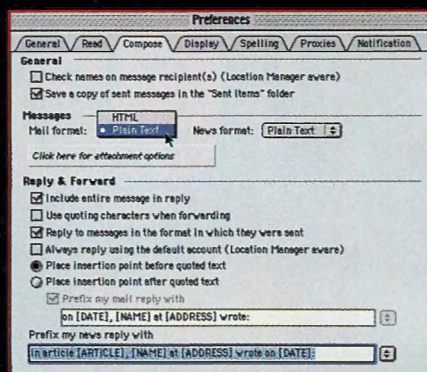
Currently two Mac-compatible anonymous email programs are available, and both are free: Mixit (www.geocities.com/SiliconValley/Byte/6176/macmixmaster.html) and Caem (download from www.versiontracker.com). These utilities automate the task of creating supersecure Mixmaster and SMTP-type anonymous emails. They are worth checking out, but tend to be more complicated to use—they are really for hard-core security buffs.

In addition, if you encrypt the message, it becomes completely secure. It's the digital-age version of Deep Throat.

To send an email message anonymously, you must first get your message to a free remailer service somewhere on the Internet. That remailer service forwards your mail to your intended address and strips off all traceable headers. Now that you understand the theory, let's send some anonymous email!

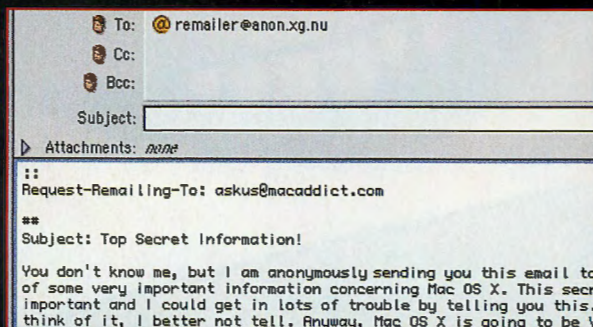
WHAT YOU NEED: Any email program that can send plain-text messages

2 Before you create your message, make sure you have your email program configured to send text-only messages. Netscape Mail and Outlook Express both allow you to set this in the Preferences dialog box. In Eudora you'll find this option in Settings.



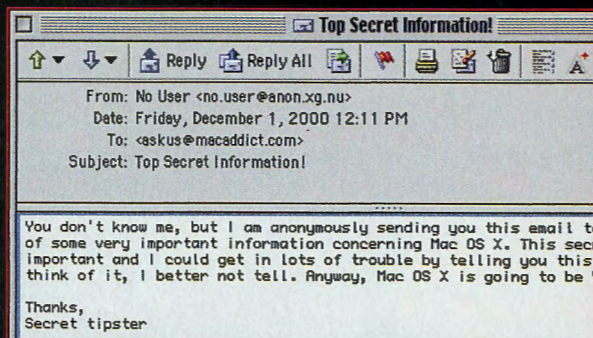
In Outlook Express, you configure your messages as plain text in the Preferences dialog box.

3 Open a new message. In the To box, paste the address for the anonymous remailer you selected. Leave the Subject line blank and place your cursor in the upper-left corner of your message's body. Use the screenshot below to figure out the commands you need to type.



Your message should look similar to this one.

4 Send your email on its merry way. Provided that the remailer accepts your request (it might not if the service is down), you just sent an untraceable, anonymous email message. You will not get a return receipt of any kind, so you can't tell if your message got sent—it's a good idea to first send anonymous mail to an account you can check so you can make sure the chosen remailer works.

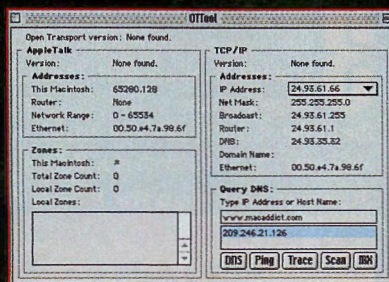


The recipient of this message has no idea who the actual sender is.

Reroute a Web Address

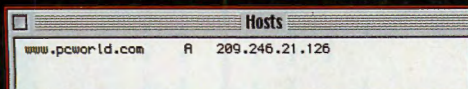
If you really want to drive people loony, try sending them to the wrong Web site when they type the right URL. Every Web site has a long, difficult-to-remember identifying number called an IP address. The Internet uses DNS (Domain Name Service) servers, which send requests for, say, www.macaddict.com to the IP address 209.246.21.126. One feature of TCP/IP is the Hosts file, which you can creatively tweak to bypass a DNS server and reroute URLs. **WHAT YOU NEED:** OTTool (free, www.neon.com) and BBEEdit Lite (free, www.barebones.com)

1 Here we want our victim to type in www.pcworld.com but end up at www.macaddict.com. There are two ways to do this. One method is to use the server's IP numbers to make the switch (using OTTool to look up Macaddict.com's IP number). The problem with rerouting IP numbers is that they can change—for instance, Macaddict.com has not always been at its current number. Another method is to reroute the server's canonical name (a URL shortcut, abbreviated as CNAME—this is its full domain entry, as opposed to just the top-level domain).

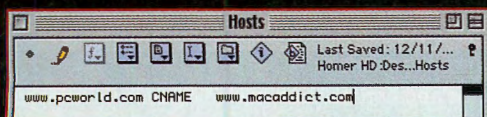


Find out any server's IP number with OTTool.

2 Create a new file in BBEEdit called Hosts. Depending on the method, type one of the two lines shown in these screenshots. In both cases, the spaces are actually tabs. You can even mix and match the way you switch around Web sites in the same Hosts file.

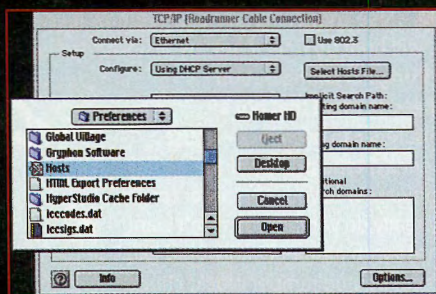


This Hosts file reroutes the actual IP addresses.



This Hosts file redirects just the server's canonical name.

3 Save the file in your Preferences folder, then open the TCP/IP control panel. Select User Mode from the Edit menu, and change the setting to Advanced. Then click Select Hosts File in the TCP/IP window, navigate to your victim's new Hosts file, and click Open. Save your configuration, then restart the computer. Now anyone entering www.pcworld.com from this computer will go to MacAddict's Web site. If you want to be *really* cruel, put together a long Hosts file list of different sites, all going to the wrong URLs. Let the hilarity ensue!



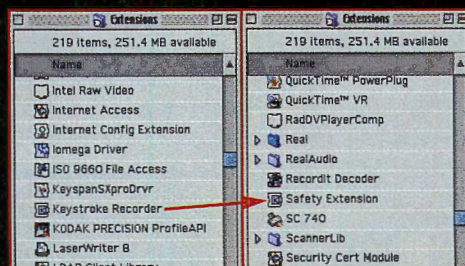
Choose your custom Hosts file in the TCP/IP Control Panel to set the trap.

Scam Passwords

Everyone seems to have at least a dozen passwords they need to keep track of. What if you want to find out the password of someone who uses your computer? Some great software can help you do just that. The easiest way, other than shoulder-surfing, is to use keystroke-recording software. Plenty of these types of programs are available, but the most complete is Keystroke Recorder. Recording keystrokes does have more legitimate uses than attempting to swipe a password. For instance, you can record everything you type; if your computer crashes, you have an instant backup.

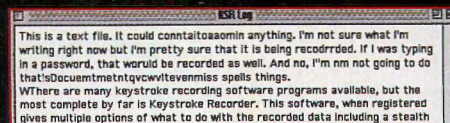
WHAT YOU NEED: Keystroke Recorder (\$20, www.campsoftware.com) and BBEEdit Lite (free, www.barebones.com)

1 All keystroke-recording software relies on access to the Extension or Control Panel folders to install the software. You may want to rename the software's extension to something more innocent, like "Safety Extension," so nobody gets suspicious.



Rename your extension and you're all set to fool even the most suspicious minds.

2 After installing the Keystroke Recorder extension, restart the Mac. A few days later, open up the Preferences folder and locate the file called KSR Log. You'll see every number, letter, and symbol typed on this Mac since you installed the recording software. SimpleText probably can't handle a file of this size, so open it in BBEEdit Lite. In the jumble of text, you are looking *only* for passwords. The secret to finding them lies in knowing that passwords usually get entered right after user names, so you should look for the latter.



nobody is suspicious.s[Local[LocateThe Extension.tif]keSmMadman666
antacidllwidisk.mac.com
johnnyb animalpassword.tif]sqqqThis also means that the file will more
likely be too big for SimpleText to open, so make sure you have a copy
of BBEEdit Lite (http://www.barebones.com) to open the Log. However with
some clever common sense you will be able to pick them out of the text. The
secret lies in knowing that usually right someone types in

By looking through this text, you can see that Madman666's password is *antacid* and johnnyb's is *animal*.

Overclock Your G3

If you're tired of poking along at a measly 266MHz on your beige G3—or if 300MHz seems slow for your blue-and-white G3—look no further. As long as your G3 is out of warranty, overclock that baby!

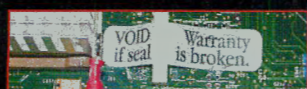
Though overclocking is nothing new to the computer world, up to this point it's been pretty rare on the Mac side. Previously, overclocking Macs did very little to improve performance, but that has changed with the G3 (the G4 is a completely different story). The reason is that the G3s use a logic board and processor with an easily configured speed control. To determine the clock speed of a computer, you multiply the bus speed by a certain multiplier. If your computer has a 100MHz bus speed and a 3X multiplier, then the computer's

clock speed is 300MHz. Using jumpers (like those on hard drives), you can actually change the bus multiplier and give your Mac a speed bump. You just need to know where to put the jumpers.

Keep in mind a couple of ground rules for overclocking your G3. The first is that there is a very real possibility you may damage your computer, and no amount of cursing will cure it. The second rule is to be realistic—your 233MHz G3 is not going to overclock to a 500MHz monster. As Bill Murray said in the movie *What About Bob*, “Baby steps, baby steps.”

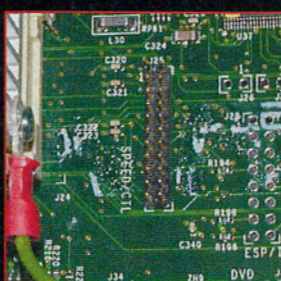
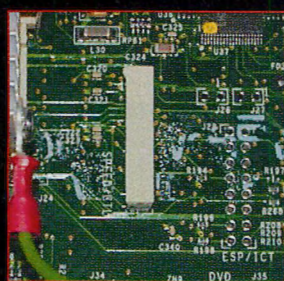
WHAT YOU NEED: At least six jumpers (available at most computer part stores) and an out-of-warranty G3

1 Open up your computer and locate the white tape that says “Void warranty if seal is broken.” Carefully remove the tape to reveal the jumper block. Instead of using individual jumpers, Apple made a block that has the jumpers already preconfigured for the speed it wanted. This is true for all G3s, beige or blue.



This is what you're looking for in your G3. Consider yourself warned.

2 Carefully remove the jumper block and notice which way it is oriented—a little tab sticking out of one end indicates the direction. Remember where this is in case you want to restore your G3 to its original speed.



When you remove the jumper block (left), you see the pins (right).

3 Find your computer's speed in the appropriate table below and set your sights on taking it one step higher. For example, if your computer is at 350MHz, think 400MHz. The blue-and-white G3s have 11 jumpers and the beige G3s have 9. There's a small notch at one end of each jumper block. The designations P1 to P9 (or P11) at the top of the tables refer to those jumper positions; the small notch is 1. Make sure you have your block oriented correctly.

Jumper Settings for Beige G3s

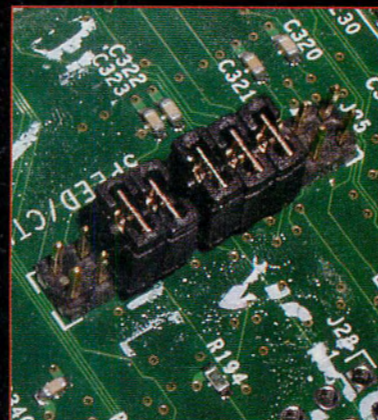
Bus Speed	CPU Speed	Multiplier	P1	P2	P3	P4	P5	P6	P7	P8	P9
66MHz	200MHz	3.0		X	X	X	X	X	X		
66MHz	233MHz	3.5				X	X	X	X		
66MHz	266MHz	4.0			X	X	X	X	X		
66MHz	300MHz	4.5	X				X	X	X		
66MHz	333MHz	5.0		X			X	X	X		
66MHz	366MHz	5.5		X	X		X	X	X		
66MHz	400MHz	6.0			X		X	X	X		

Jumper Settings for Blue-and-White G3s

Bus Speed	CPU Speed	Multiplier	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
100MHz	300MHz	3.0	X	X	X		X	X		X	X		
100MHz	350MHz	3.5	X				X	X		X	X		
100MHz	400MHz	4.0	X		X		X	X		X	X		
100MHz	450MHz	4.5				X	X	X		X	X		
100MHz	500MHz	5.0			X		X	X		X	X		
100MHz	550MHz	5.5		X	X		X	X		X	X		
100MHz	600MHz	6.0		X			X	X		X	X		

4 Place your jumpers in the appropriate locations indicated in the tables. We overclocked a 400MHz blue-and-white G3 to 450MHz by putting jumpers on the 4, 5, 6, 8, and 9 positions. After setting your jumpers, close your computer and see how it goes. If overclocking worked, your Mac will boot up fine. If not, try a slower speed or just restore the jumper block to its original configuration.

Keep in mind that not all computers can overclock—it just depends on the quality of the actual G3 processor in your computer (sadly, they really do vary). If you don't want to mess with jumpers and would like a preconfigured jumper block, check out the \$60 MacThrust from Xtrem.Com (www.xtrem.com). For the lowdown on G3 overclocking, check out www.xlr8yourmac.com/g3-zone.



This is our very own G3 400MHz baby, overclocked to 450MHz.

Can I Overclock My iMac?

The short answer is yes, but the long answer is you probably shouldn't. The G3 processors in iMacs work the same way they do in the towers—a configurable multiplier gives different CPU speeds. However, on the iMacs Apple didn't set these multipliers with standard jumpers—instead, minute little resistors on the processor card do the dirty work. It takes someone with superior soldering skills and a microscope to finish the job. If you really think you have the guts and the skill to attempt it (even we wouldn't do this, if that's any indication), head on over to www.bekkoame.ne.jp/~t-imai/maine.html for instructions.

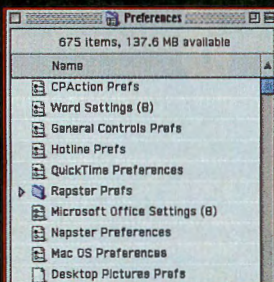
Make That Demo Last Forever

Demos are great for getting a taste of what an app is like before spending money on it. There are ways, however, to make a time-limited demo last forever—you'll never have to buy it, though you know you really should. While not every demo is easily cracked, these measures might keep it chugging along.

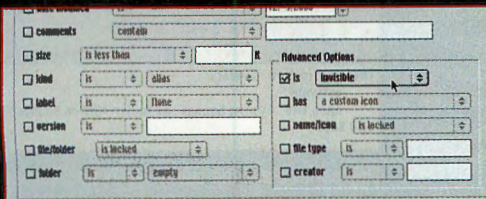
WHAT YOU NEED: A demo to hack

1 Many software demos keep track of usage in a preference file, which takes note of the first time you launch the program and counts down until the demo expires. By trashing this file, you can start fresh again—and again, and again.

One of these files might hold the key to keeping that demo running.



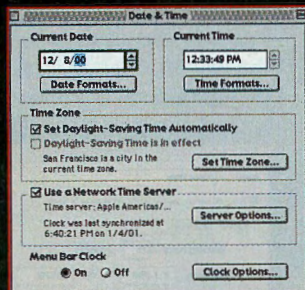
2 The truly tricky software developer will create an *invisible* preference file. In this case, the only way to get the software working after the time expires is to run the installer again, which resets this invisible file. To look for possible invisible files, open ResEdit (free, via <ftp://ftp.apple.com>) and use the Get File/Folder Info option under the File menu to search your hard drive and trash possible culprits. You could also use Sherlock's custom search option to find and trash invisible files.



Sherlock lets you look for invisible files when you choose a custom search.

3 Set your Mac's clock back. If your computer thinks the time's earlier than it really is, that demo might think so, too, and might launch a few more times. This won't work forever, though.

Fool your Mac—and that demo—into thinking it's earlier than it is.



4 Of course, the best method to keep that program up and running is to pay for it. By supporting Mac software authors with our dollars, we help them produce more programs. So cough up the dough—it's good for us all.

The best way to beat the time-limited demo is to pay for it, as we at MacAddict *always* do.

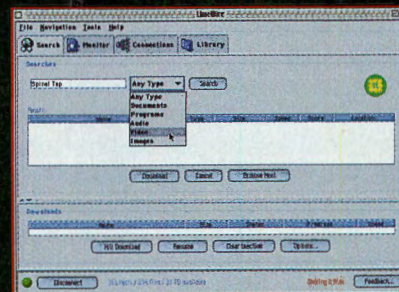


Get Free Music and Movies from the Net

Unless you've been living in a tree with Julia Butterfly Hill, you already know all about Napster—but there are actually alternatives (no, really!) for finding free music and movies. Just be aware of the pending copyright issues and legal ramifications of these file-sharing services, which can get shut down at any time.

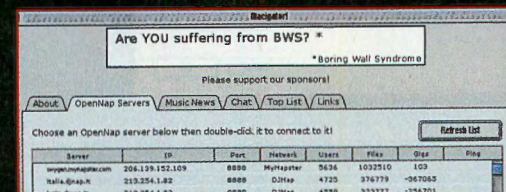
WHAT YOU NEED: A slew of software (see below)

1 Gnutella. This is a great way to find multimedia files such as movies or animations like old Jonny Quest cartoons. Users designate a folder they want to share with the rest of the Gnutella network. Since the service is so decentralized, it can be difficult to connect to hosts. Currently there are two Java clients for Mac—Furi (free, <http://homepage.mac.com/macgnutella>) and LimeWire (free, www.limewire.com)—and one native Mac app called Mactella (free, www.cxc.com).



In our humble opinion, LimeWire seems more complete than Furi and is also easier to configure and connect.

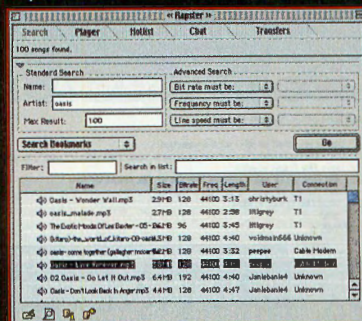
2 Macigator (free, www.macigator.com). Many users run this open-source version of the Napster server software to create their own Napster service via Open Nap servers. The Napster application by itself cannot connect to these servers, but Macigator can. Just launch Macigator and select an Open Nap server. Macigator will launch Napster for you and attempt to connect to the server.



Forget Napster—try Macigator.

3 Rapster (free, www.macnews.com.br/overcaster/products/rapster.html). This Napster client allows access to both the Napster server and Open Nap servers. Rapster may not be the official Napster client, but many believe it should be.

Rapster offers the best of both worlds, combining Napster and Open Nap servers.



Play Hooky from Work

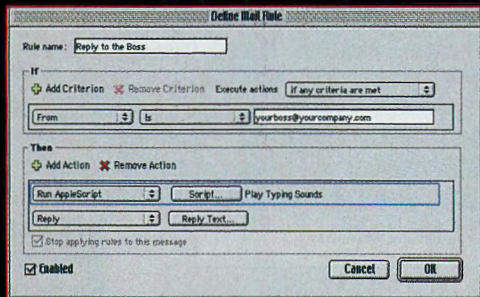
Computers and work go hand in hand these days, and you probably spend your entire day staring at a monitor. But if you're one of those lucky people who has an office with a door, chances are good that you could go through the day without actually seeing a person face to face. This makes it possible to convince the rest of the office you're slaving at your desk, when in fact you're out on the golf course. With some utilities and cool Mac automation tricks, you can turn your Mac into a front for your extra-office activities. Some of

1 Set up a good-morning chime. Nothing says “I’m here!” better than a hearty startup chime in the a.m. Use the Energy Saver control panel’s schedule function to automate your Mac’s startup and shutdown times. Make sure you set it to start up earlier than usual—you might as well score brownie points as an early bird while you’re at it!

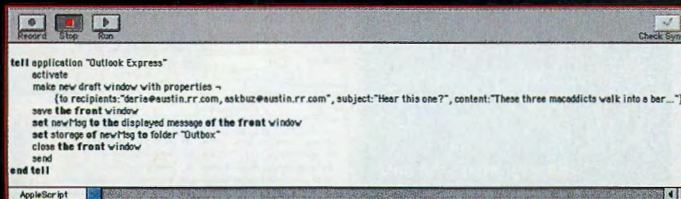
On sesame! Off sesame!

2 Let your email do the talking. Since we seem to conduct so many of our interactions these days via email, automate your email program so it performs some basic tasks for you. In our example, we're using Outlook Express, which lets you create rules and schedules.

First put an alias of your email program into the Startup Items folder so it launches automatically. Next create a rule (under the Tools menu) that autoreplies to any message from your boss with a generic response like "Got your message, I'm on the case!" If you really want to get fancy, forward email from your boss to your alphanumeric pager. Just set up a rule that autoforwards those messages to your pager's email address (to do so you must have a pager service that supports this feature).



Next, set up a schedule so your email app checks and sends mail frequently. This will allow you to send those autoreplies and keep your mailbox current. Check out the [Unofficial Outlook Express Page \(www.macemail.com/oe\)](http://www.macemail.com/oe) for in-depth setup information. Also, since Outlook Express is scriptable, you can even set up an AppleScript that sends an obnoxious joke mail to everyone in the office at a certain time (see the screenshot below).

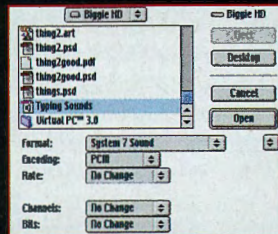


Here is a little AppleScript for creating and sending a group joke message with Outlook Express. Soft-return by pressing Option-Return.

these tricks also work if you're supposedly telecommuting—so by all means give yourself the day off!

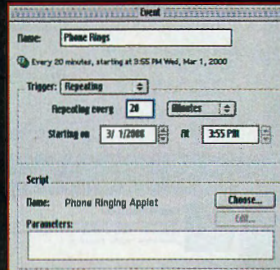
WHAT YOU NEED: microphone, Coaster (free, www.visualclick.de), SoundApp (free, www-cs-students.stanford.edu/~franke/SoundApp), Outlook Express 5 or any other scriptable email program (free, www.microsoft.com/mac/products/oe), iDo Script Scheduler (free version, www.sophisticated.com), and AppleScript Script Editor (included with every Mac OS since System 7, www.apple.com/applescript)

3 Make yourself heard. By recording and playing some common office sounds like ringing phones, keyboard typing, and talking on the phone, you can fool even the cleverest of bosses. Use a microphone in combination with the sound-recording tool Coaster to record snippets of office sounds.

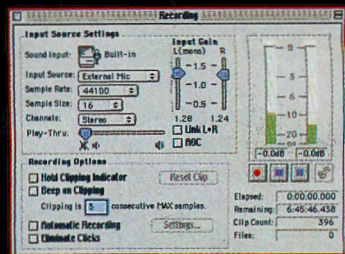


Once you've recorded your sounds, write an AppleScript that opens each file on its own (see screenshot at right). Save the script as a Classic Applet with Never Show Startup Screen checked.

The final step is to set up the iDo Script Scheduler to execute your AppleScripts. Set it so that it plays different sound files at different times of the day. Make sure to test the volume on your computer so it's not unnaturally loud or soft.



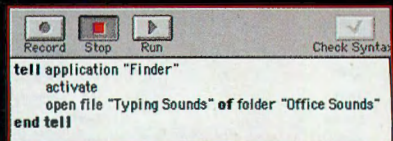
**Tell iDo Script Scheduler when
to run your AppleScripts.**



Use Coaster to record your sounds.

Then use the free utility SoundApp to convert the sounds to System 7 format—you need to do that so the sounds can play on their own in the Finder without requiring an outside application.

**Convert sounds to System 7
format in SoundApp.**



This script plays the sound file Typing Sounds.




Schedule a bunch of sounds at different intervals to keep you looking—and sounding—busy.

4 Take the day off! And remember—if someone says they peeked in your office and you weren't there, just tell 'em you stepped out for a few minutes.

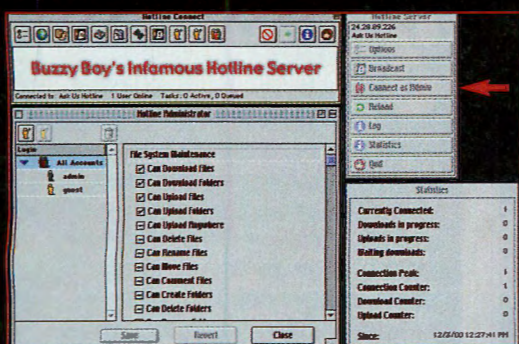
Run Your Own Hotline Server

Hotline is a popular cross-platform file sharing and chat technology that's great for finding old shareware games or chatting with other users. With the right software and a Net connection, you can use your Mac as a Hotline server. So why shouldn't you know how to set this up? Well, Hotline is a bit of an outsider on the file sharing and chat scene because people often use it to trade pirated software. Of course, we know none of our faithful readers would ever *think* of engaging in this very illegal activity.

WHAT YOU NEED: Hotline (free, www.bigredh.com)

1 Download the software—you will need the Macintosh Server and Hotline Client.  These are all you need, folks.

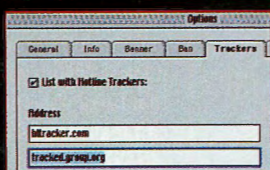
2 Configure your server. Most important, give your server a good descriptive name and set up your shared folders. You also need to decide if you want to let all guests connect or if you prefer to keep your server private and require a name and password. Also create a server banner—the standard size is 468 by 60 pixels. Save it as a JPEG file in the Hotline server folder and put the name of the file in the server's Options window under the Banner tab. You handle all administration via the Hotline Client—just click the Connect As Admin button.



All the tools you need to administer your server are right here—just click Connect As Admin, and you're off and running.

3 Once your Hotline server is up, register with a Hotline Tracker so others can find you. The Web site www.tracker-tracker.com maintains a list of available Trackers for Hotline. To get your server added to these lists, enter the desired addresses in the Hotline server's Options dialog box. Most Trackers do not require a password for listing, although some do.

You've got to make yourself known! Register your server with one of the popular Hotline Trackers.

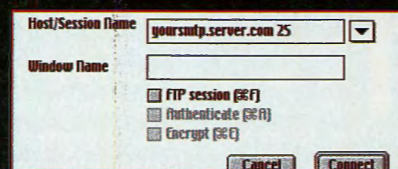


Forge an Email Message

Imagine how handy it would be to send an email that looks as though it came from someone else. Well, you can—with this simple little trick you'll be forging email like a pro in no time (and you wouldn't even consider *abusing* this power, right?) All you need is a Telnet client, which will sneak you through a Unix server's backdoor. An open hole on port 25 makes *most* SMTP services available to the world. Start by experimenting with your ISP's SMTP server.

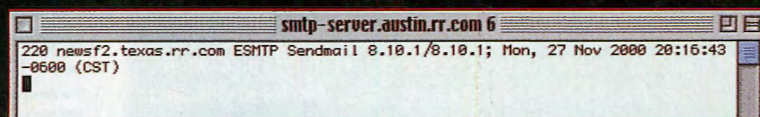
WHAT YOU NEED: Any Telnet application, such as NCSA Telnet (free, www.ncsa.uiuc.edu/SDG/Software/MacTelnet) or Mac OS X's Terminal, and a Unix server running a mail server.

1 Launch your Telnet client and type a mail server's address, followed by 25. With NCSA Telnet, you must type a space, then 25. With most others, such as Nifty Telnet, you type a colon following the address, then 25.



Log in to any mail server via Telnet to port 25.

2 If you get some text and a prompt, you're in. If you don't, try another mail server. Before we get into what to type at the prompt, remember that if you forget what commands to use, you can simply type HELP and press Return. Most servers *help* you hack into them!



This resembles what you should see after connecting. Different servers will have somewhat different text.

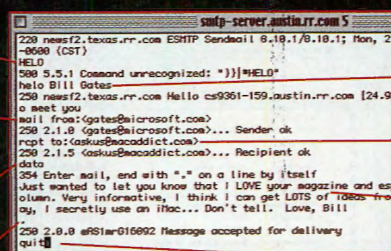
3 Now it's time to start forging. In this example, we are sending a message to askus@macaddict.com from gates@microsoft.com. For help composing your message, follow along with the screenshot below (the server responses begin with a number).

HELO produces an error

Set your supposed sender

Data means you want to type a message

End the message with a period on its own line



Helo Bill Gates worked

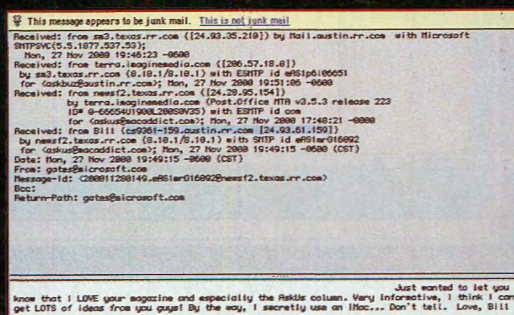
The recipient

The message text

Type quit when you are finished

Follow this actual Telnet session to find out how to forge an email.

4 We've finished our forgery, and the email appears to come from Bill Gates himself! Unfortunately, the actual headers show our IP address, so you can't stay truly anonymous (although most email programs hide headers by default).



The full email headers tell the real story.

Control Someone Else's Computer

Imagine this: While your friend is working on his or her Mac, icons start moving around the desktop by themselves and applications start launching as if possessed. The cool thing about it is that you're behind it all, controlling that computer from your own Mac across the room! It's hard to find better fun than that—and it's free, with some very cool software from AT&T. There's also Netopia's Timbuktu, which is pricier (\$160), but offers more features.

It's all possible via a technology called VNC (Virtual Network Computing), which lets you actually view and control another

computer over the Internet. Of course, this technology leaves plenty of room for mischief, such as launching sounds when someone is working or even restarting that person's computer out of the blue, but it does have some legitimate uses. The most obvious is for tech support over the Internet—IT people can actually see what a customer is doing on the computer and can provide help as if they were on the scene. Of course, we're just not all about helping others.

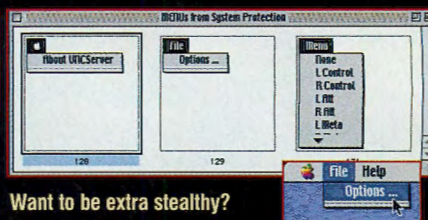
WHAT YOU NEED: Mac VNC Software (free, www.uk.research.att.com/vnc)

1 VNC software is free for download from AT&T because the company still considers it beta software, but hopefully a final version will be available soon. The software consists of two components—a server application for the target Mac and a client application for controlling that Mac. To spy on a computer, you need to have the server application running—you may want to rename the program and give it a different icon to make it look less suspicious. You could even put an alias to VNC in the Startup Items folder so it launches every time the Mac starts up. The truly devious might even use ResEdit to remove the Quit menu item so their victims can't quit out of the program!

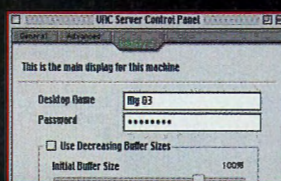
2 Covertly set up the server application on your victim's computer. To configure the server software, set a password in the Options dialog box. You will use this password from your Mac to view your victim's computer. This is also where you discover the IP address for the target Mac, which you will need for access. Most computers do not have a permanent IP address—these get assigned randomly when the system connects to the Internet, so make sure your victim's computer is going to stay on until you can start spying.



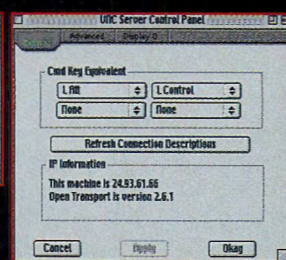
How about renaming the server application that runs on your victim's computer to some innocent-sounding alternative?



Want to be extra stealthy? Use ResEdit to remove the Quit menu item from the VNC server application.



You have to set a password to gain control of the target machine.



You will need that computer's IP address so you can connect to it.



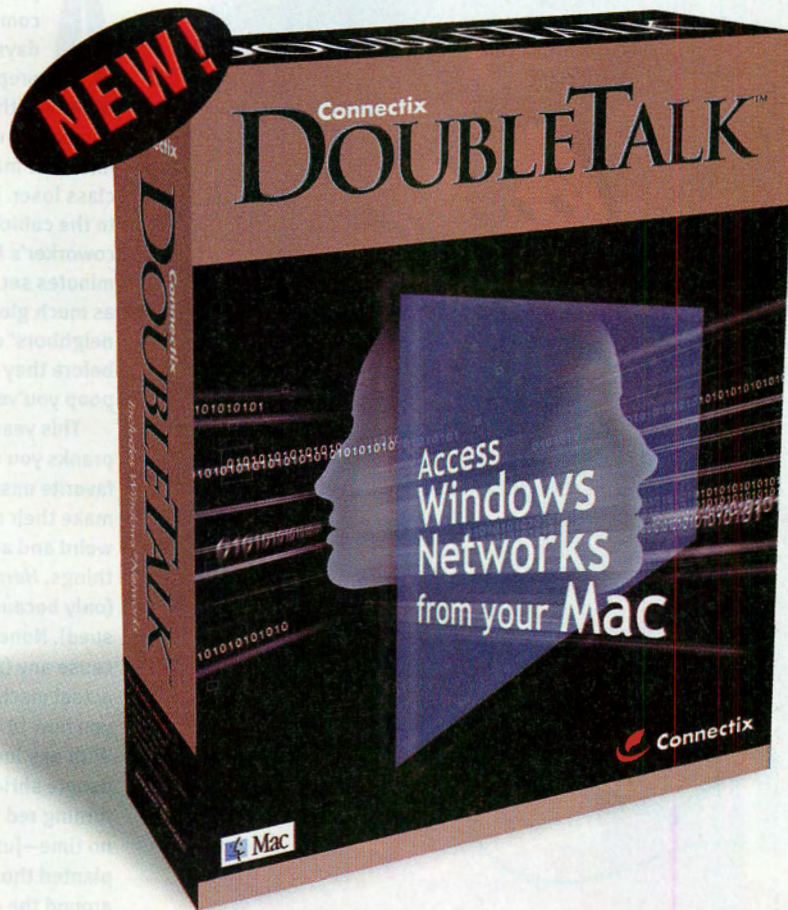
3 After you've set the trap, it's time to take control. The client software is a simple application that allows you to connect to, view, and control any computer running the VNC server software. In fact, the client portion of the software is so popular that you can find several shareware and freeware versions—and even a few versions for Mac OS X! You may want to experiment with different programs to find one you prefer—a search for VNC at www.versiontracker.com should provide all the latest VNC clients.

Once you have the software running, just type the IP address and password you set up on the target computer and take a look. If somebody is working, you can see what he or she is typing as well as watch the mouse move. Get creative—maybe launch a few apps, compose an email message, or open a SimpleText document and just start typing. The real fun, however, is simply moving the cursor around the screen and seeing how long it takes before your buddy gets so frustrated that he or she shuts down the computer. This can really take a few years off your victim's life—so enjoy!

How cool is this? We're viewing someone else's Mac from our own!

Buz Zoller is proud to say that he makes a living using his Mac responsibly and has never, ever used it inappropriately. He promises...

The Simple Way to Access PC Networks



DoubleTalk from Connectix revolutionizes Mac-PC networking by enabling Power Mac users to connect to PC networks and printers from within the familiar Mac interface. DoubleTalk sets up quickly and easily in the Mac environment. It automatically configures its network settings, then lets you access network resources and services through the Chooser or Network Browser. DoubleTalk works automatically and transparently in the background, requiring little or no user intervention.

Access file servers, transfer files from shared Windows workstations, print to networked Windows Postscript printers, and create a peer-to-peer network with Macs and PCs with little or no help from your IT department. Purchase Connectix DoubleTalk online from the Connectix eStore or from your favorite software retailer. For more information, go to www.connectix.com.

© Copyright Connectix Corporation. Connectix and Connectix DoubleTalk are trademarks of Connectix Corporation. All other trademarks are property of their respective holders.

8 Jokes to Irk Those Closest to You

Top April Fools' Pranks



April Fools' jokes sure have come a long way. In the old days, pranks involved a lot of preparation and physical work, whether it meant soaping up someone's windows, forking people's lawns, or making prank calls to the class loser. Now you can simply head to the cubicle next door, fire up a coworker's Mac, and within five minutes set up a prank that gives you as much glory as ringing the neighbors' doorbell and running away before they step on that bag of dog poop you've left on their doorstep.

This year we've assembled eight pranks you can use to torture your favorite unsuspecting Mac users and make their machines do all kinds of weird and annoying (but harmless) things. *Harmless* is the key word here (only because we don't want to get sued). None of these tricks should cause any (permanent) damage to the actual machine, and of course we tell you how to undo what you've done. With any luck, come April 1 you'll have people shrieking in frustration and turning red with embarrassment in no time—just like that year you planted those whoopee cushions around the office...

by Maria Langer illustration by SHAG

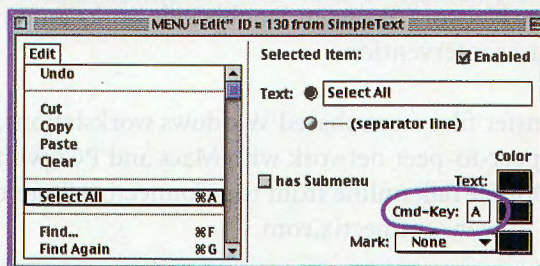
Take the Shortcut

THE PRANK: An application's shortcut keys don't work the way they should—or don't work at all.

IDEAL VICTIM: Shortcut-key fanatics—you know the type.

THE DELIVERY: Make a copy of the application you're planning to alter, then open the original version with ResEdit and double-click the MENU resource. Open a menu with lots of shortcut keys—the File or Edit menu is a good candidate. Select a command that has a shortcut key, then either delete the contents of the Cmd-Key edit box or enter another character. Do this with a bunch of them—what the heck! Finally, save your changes and quit ResEdit.

DAMAGE CONTROL: Reverse the command keys to their original combos, or simply restore the program from the backup copy.



You have access to shortcut keys in the MENU resource—change or delete characters in the Cmd-Key edit box.

Edit		
Undo		
Cut		
Copy		
Paste		
Clear		
Select All	⌘H	
Find...	⌘E	
Find Again	⌘Y	
Find Selection		
Replace...	⌘V	
Replace Again	⌘O	
Next Page	⌘U	
Previous Page	⌘I	
Go to Page...		
Show Clipboard		

Do you think the victim will notice the subliminal message here?

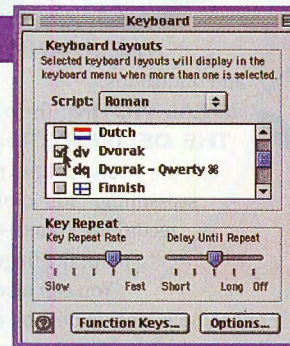
Scrambled Keyboard

THE PRANK: The keys your victim types are not the characters that appear onscreen.

IDEAL VICTIM: Your favorite touch typist.

THE DELIVERY: Open the Keyboard control panel. Turn on the check box beside Dvorak, then turn off the check box beside US (or whatever language is selected). Make sure only one keyboard is turned on—otherwise the keyboard menu appears in the menu bar as a dead giveaway. When you close the Keyboard control panel, the result is enough to make anyone who's trying to accomplish an iota of work go mad.

DAMAGE CONTROL: Turn on the appropriate language for the keyboard and turn off the Dvorak layout.



Not the composer, the keyboard—click the Dvorak check box to scramble the keys.

Memory Hog

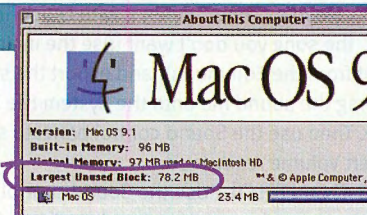
THE PRANK: One app takes up so much RAM that no other application can open.

IDEAL VICTIM: G4 owners with lots of RAM.

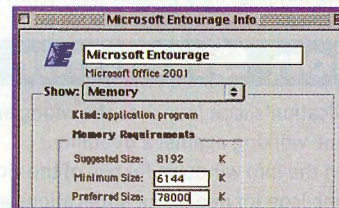
THE DELIVERY: Quit all applications except the Finder and choose About This Computer from the Apple menu. Check Largest Unused Block and write down this number—it's the total amount of RAM available with only the Finder running.

Open the Info window for the victim's most often used application. (Or better yet, if there's an application in the victim's Startup Items folder, use that.) Choose Memory from the Show pop-up menu and, in the Preferred Size box, enter the number you wrote down. Close the window, and watch the out-of-memory errors ensue like a series of Jack Tripper stumbles and falls.

DAMAGE CONTROL: Open the Info window for the application and restore Preferred Size to its previous setting or (if you forgot to write this down) Suggested Size.



The About This Computer window tells you how much RAM the application can hog.



Buuump up the RAM, bump it up.

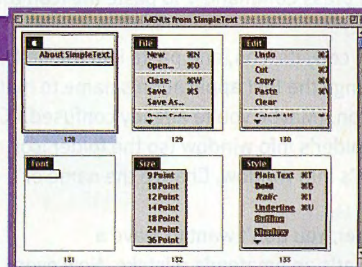
Menu Theft

THE PRANK: A menu command is missing from an application's menu.

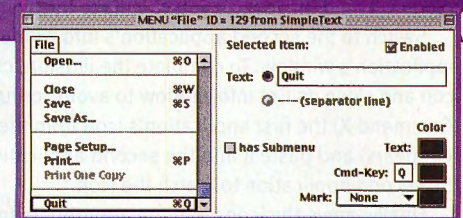
IDEAL VICTIM: Anyone who is already on the edge.

THE DELIVERY: Make a copy of the application you want to play with, then open the original with ResEdit. Open the MENU resource picker window to display all the menus in the application. Double-click the menu you want to pillage, select the command to remove, and press Delete. For best results, it should be the last command on the menu; otherwise, any command below the one you remove will probably get messed up, too. Close the window, save the file, and quit ResEdit. When the victim opens the application, the menu command you stole will be missing, and the keyboard shortcut won't work either—just to rub extra salt in the wound.

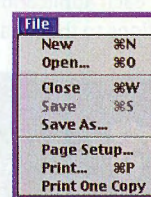
DAMAGE CONTROL: Restore the file using the backup copy.



Open the MENU resource picker to view all the menus in the app you're hacking.



Open the resource for the menu you want to pillage and press delete.



A File menu without a Quit command can be very frustrating, no? Force-quitting is the only way out of this mess.

Déjà Vu

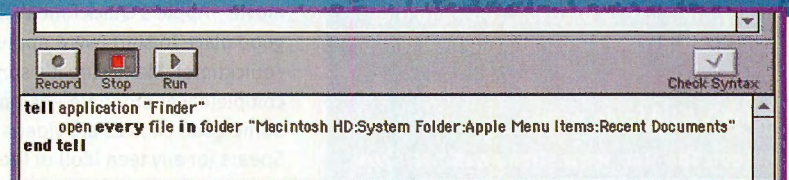
THE PRANK: Every time the Mac starts up, it opens all of the Recent Documents.

IDEAL VICTIM: Anyone short on time—and patience.

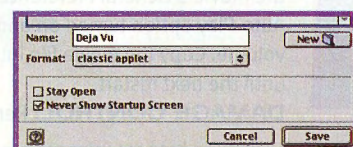
THE DELIVERY: Fire up the Script Editor and create an AppleScript. Use the screenshot, right, as a model for the commands you should type. Of course, change *Macintosh HD* in the script so it matches the actual hard drive name.

Save the script in Classic Applet format in the victim's Startup Items folder. Make sure you turn on the Never Show Startup Screen check box in the Save dialog box—otherwise, the victim will know something's up. The next time the Mac starts up, the fun begins (at least for you).

DAMAGE CONTROL: Remove the script from the Startup Items folder.



Use Script Editor to create this AppleScript—it opens up all the items in the Recent Documents folder at startup. Yes, we know it's evil.



Make sure to save the script as a Classic Applet with the Never Show Startup Screen option turned on.

Wake Up!

THE PRANK: The computer's alert sound is loud—and obnoxious.

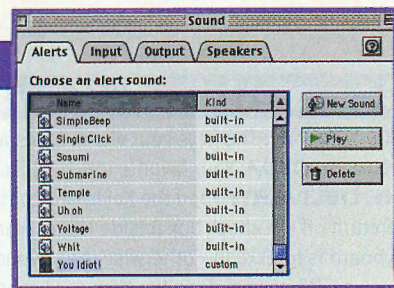
IDEAL VICTIM: The office know-it-all.

THE DELIVERY: There are two ways to go about this. One way is to use the Sound control panel to record a new sound, such as a voice screaming, "You idiot!" Get someone the victim doesn't know to record the sound—if you do it, the victim will know for sure where to point the finger. Set that recording as the alert sound.

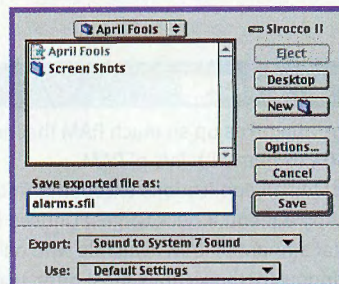
You can also use a prerecorded sound, such as an MP3 file.

For example, decide on a bit of a song (not the whole thing)—say, the 32 seconds of ringing alarm clocks at the beginning of Pink Floyd's "Time." Open it with QuickTime Pro, slice off the part of the song you don't want (use the in and out markers, then select Cut from the Edit menu), and export the snippet as a System 7 sound file. Drag the sound file onto the System File icon to put it into the System suitcase. Then use the Sound control panel to set it as the alert sound—and set the Alert Volume *really* loud.

DAMAGE CONTROL: Use the Sound control panel to change the alert sound back to something more pedestrian, like Submarine.



You can create and save a recording, then set it as the alert sound.



Or you can use QuickTime Pro to export part of a recording as a System 7 sound file.

Application Switcher

THE PRANK: An application's icon launches the wrong application.

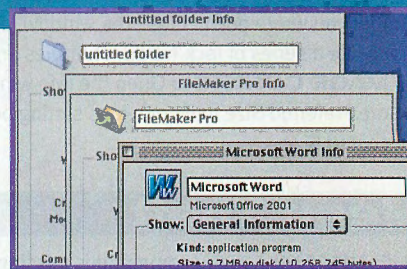
IDEAL VICTIM: Anyone working against a deadline.

THE DELIVERY: Open the Info windows for two of the victim's most often used applications and for any folder. Click the icon for one of the applications and press Command-C, then switch to the folder's Info window, select the folder icon, and press Command-V to paste the icon there. (The folder will hold the icon so you can make the switch.)

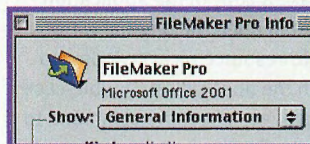
Switch to the second application's Info window, copy its icon, and paste it in the first application's window. To complete the illusion, change the first application's name to match the icon and close its Get Info window to avoid confusion. (Maybe you're already confused.) Cut (Command-X) the first application's icon from the folder's Info window (so the folder icon reappears) and paste it into the second application's Info window. Change the name of the second application to match the icon.

Finally, move the icons into the appropriate folder. You don't want to leave a FileMaker Pro icon in the Microsoft Office folder—that's an amateur's mistake. Now every time your victim launches FileMaker, Word will open, and vice versa. Delicious, isn't it?

DAMAGE CONTROL: Open each application's Info window, select the icon, and press Delete. Restore the applications to their real names.



Open the Info windows for the two applications you want to switch and for a placeholder folder.



After you swap icons, it'll take a sharp eye to see the truth in the Info window.

Fancy Pranks

Programmers aren't the all-work-no-play, jolt-swaggering nerds you may think they are (OK, some are). They like to have fun, too—and they have the skills to take Mac pranks to new limits.

Here are a few sites to check out for some ready-made, fancy April Fools' pranks.

- April Fools the Mac, www.streamweb.net/skov/fools.html. Find pranks such as Arrgh (causes your Mac to emit random screams) and Nwls (takes away all your Mac's vowels).
- C|Net, <http://download.cnet.com>. Search for the words *prank* or *joke*. You'll find plenty of gags to keep you giggling all day on April 1 and beyond.

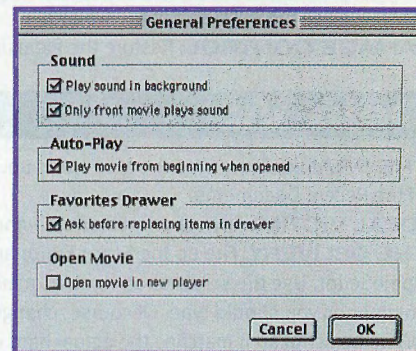
At a Theater Near You

THE PRANK: Every time the victim starts up, an embarrassing movie plays.

IDEAL VICTIM: The quiet type.

THE DELIVERY: Find a QuickTime movie—Apple's QuickTime Web site is a good place to start (www.apple.com/quicktime). Make sure it's something completely appropriate—or inappropriate! Some good choices are videos of Britney Spears (or any teen idol) or footage of a medical educational video on treating some embarrassing condition (say, bladder leakage). For best results, make sure you set the movie's General Preferences with the Auto-Play option turned on and crank up the volume. Copy the movie file into the victim's Startup Items folder and wait until the next restart.

DAMAGE CONTROL: Remove the movie from the Startup Items folder.



Set the movie's General Preferences to enable AutoPlay.

FireWire 6-Port Hub

From BELKIN

The Next

technology, beauty and, well, speed.

Intrinsic cable management meets compact symmetry and graceful lines. An arc of rear ports flows cables to the computer—function meets form. For all its awesome capabilities, such as a docking ring and 480Mbps transfer speed, you'll love what this hub does for your workspace. At Belkin, we're innovating to make the hottest interface the coolest.

Wave in intelligent style—

compact symmetry, extendable

BELKIN

belkin.com

©2001 Belkin Components. All rights reserved. All trade names are registered trademarks of respective manufacturers listed.
FireWire is a registered trademark of Apple Computer, Inc. registered in the United States and other countries, used under license. 21AD364-MA-FB

SHOOT YOUR OWN SCREEN TEST

USE HIGH-END EFFECTS TO SET YOURSELF APART



STORY BY STEVE ANZOVIN, MIRIAM ANZOVIN, AND RAF ANZOVIN
STARRING MIRIAM ANZOVIN AS BOTH WILLOW AND BUFFY
AND RAF ANZOVIN AS THE VAMPIRE

Find a video of Miriam's screen test, Sound
Sculptor II 2.4.2, Sound Studio 1.5.3
Shareware, and Amadeus II v3.0 on The Disc.



Everybody wants to be in pictures, but the old technique of hanging around Schwab's drugstore in Hollywood in the hopes that a producer will offer you a contract is as yesterday as—well, teen angst movies. Whether you're in Peoria or Pinsk, all you need to produce your own professional-looking screen test extravaganza is your DV Mac, a FireWire DV cam, and a couple of Gs worth of software.

We know, because we did it ourselves. Recently, the WB put out a nationwide casting call asking for a three-minute video test in which prospective actresses were to reenact a scene starring Buffy and Willow from 1999's *Buffy the Vampire Slayer* season opener. Coauthor Miriam, a major Buffy fan, decided to try out—but a boring two-person test didn't satisfy us (what was this anyway, *Dawson's Creek*?). So, in time-honored Hollywood fashion, we ratcheted up the special effects. These included having Miriam play both Buffy and Willow; adding a time-accelerated fight sequence in which a vampire (played by Raf) attacks Buffy; and having Miriam "dust" Raf in the final shot.

Here we'll show you techniques for accomplishing all of these effects, including tutorials on how to:

- Shoot footage in preparation for the special effects treatment.
- Speed up an action scene.
- Put together a scene with the same actor playing two parts.
- Create mattes.
- Add particle and dust effects.
- Dub your dialogue.

Your own screen test will probably have a different feel from ours, so go ahead and use only the tips that apply to your video. And of course you'll want to come up with some unique effects. As everyone knows, you're nothing in Hollywood if you're not at least *somewhat* original.

THE GEAR

When it comes to slaying vampires, all the real Buffy needs is Mr. Pointy, a crossbow, and hair clips that won't come out even when demons throw her across the room. To create effects like those in our screen test, however, you'll want the following:

HARDWARE

- A FireWire DV camera and tripod
- A FireWire-equipped Mac and a second Mac for dialogue looping
- A Mac-compatible microphone

SOFTWARE

- Final Cut Pro 1.2 or later (Apple Computer, www.apple.com/finalcutpro, \$995). You can do your editing and most basic effects within Final Cut Pro.
- After Effects 4.1 (Adobe, www.adobe.com, \$695) for advanced composites.
- Final Effects Complete (Media 100, www.iced.com, \$795) for particle effects.
- SoundEdit 16 (if you already have it—Macromedia has discontinued this product) or any reasonably competent audio recording and effects software (see "Sound Alternatives," p45).



STEP 1. BLOCK AND SHOOT

Get your screen test off to a flying start by shooting the fun part first—the location footage (in this case, we were off to the cemetery). It's not all goofing around, though—you have to follow certain rules in order to place effects into the footage during postproduction.

RULE 1: REHEARSE, REHEARSE

Carefully block out all movements before going out on location. Miriam choreographed all of the movements for each character, using her experience as a student of karate and tai chi sword form (plus avid study of Michelle Yeoh movies), and made Raf rehearse them again and again.

RULE 2: ORGANIZE YOUR SHOTS

Most movies today are not shot in sequential order, and yours is no different—so get organized. Create a shot list in which you group shots according to character and/or camera angle. For example, we did all of the shots in which Miriam plays Buffy at one time. Then Miriam changed into Willow mode, we moved the camera, and she did all of those shots. We later rearranged the shots using Final Cut Pro.

RULE 3: LOCK DOWN THAT CAMERA

Put the camera on a tripod or other sturdy support and lock it down so it can't move. For extra safety, use duct tape or some other means to anchor the tripod to the floor or ground. Why? You need a stable background image on which to place your special effects. Also, don't plan any deliberate camera moves for footage to which you'll be adding effects. Creating effects that emulate the camera's movement (*match moving*, in industry terms) is a difficult and time-consuming task.

RULE 4: SHOOT BACKGROUND PLATES

A clean background image with no figures or foreground moving elements is known in movie lingo as a *background plate* or *clean plate*.

Plates provide a stable background for the visual effects layer. The plate can consist of a single frame, but more likely you'll be using a clip with the same duration as the effect. We used background plates at the end of our screen test when Miriam "dusts" Raf (see step 5, p44). It's smart to shoot a background plate for every camera angle, since you never know what effect you may want to add later.

RULE 5: TAKE MEASUREMENTS

Measurements apply when you composite 3D objects or characters into the footage. Bring a tape measure to the shoot and measure the camera's distance from the ground and from where you plan to place the 3D effect. Also measure the camera's tilt using a level or protractor. Finally, note the zoom amount (focal length). Also take note of the location of light sources and shadows and their relative intensity. You may want to put a real object where you plan to place the 3D effect and shoot some footage so you have a record of how the light falls on the object and where the shadows should be.

RULE 6: KEEP YOUR FOOTAGE

You'll shoot lots of bad takes, but don't record over them—they might contain hidden gold (see step 2, p42).



In a bad take from the film, our fight scene quickly lost air. But—as we learned later—that bad footage proved invaluable to our video.

STEP 2. SLICE AND DICE

The next step is to hook your camcorder to your Mac via FireWire and bring the video into Final Cut Pro, our favorite video editing program. Once you've done this, you can put together a rough edit. This means dragging clips from the Browser, which organizes all the footage, and placing them on the Timeline, which displays each clip and track sequentially and allows you to edit and scrub (or scroll frame by frame) through them with a number of different tools (see "Final Cut Pro Basics," right). The Canvas window shows the assembled sequence in its entirety.

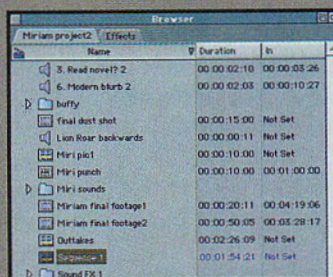
While we can't cover every aspect of the complex editing process, we do urge you to keep your cinematic vision flexible. For example, as we were editing, we found that we lacked reaction shots from Willow to intercut in the fight sequence. This stymied us—until we came up with the idea to add snippets from outtakes we had originally planned to discard. The disgusted facial expressions Miriam made after she flubbed her lines turned out to be perfect for this use.



Miriam's mugging in these outtakes was perfect for reaction shots in the fight scene.

FINAL CUT PRO BASICS

You'll spend most of your Final Cut Pro time in the following three windows:



The Browser: Here's where the program stores and organizes all of your clips—video, audio, and still images. To bring footage into your edit, simply drag clips onto the Timeline.



The Timeline: Most editing action happens in the Timeline, which organizes clips into video, audio, and effects tracks. Drag clips around to change their order, use editing tools to add transitions and other effects, and scrub through the movie by dragging the time marker.



The Canvas: Here's where you view the assembled edit, including effects, using the VCR buttons. Jog and shuttle controls help you find in and out edit points.

STEP 3. FASTER, FASTER, PUSSYCAT

Once you've completed the rough edit, it's time to start adding effects. These can run the gamut from simple color tweaks to elaborate composites employing animated masks, filters, particle generators, and more. Luckily, Final Cut Pro includes sophisticated compositing and effects tools, so you can do most of your work without going into another program.

One relatively simple effect is to change the speed of a sequence, a trick used often for action scenes in movies, especially kung fu films. (Did you really think they could kick and block that fast?) In our screen test, Raf did a valiant job of throwing himself around as if a Slayer had kicked him (a job for which he's been amply prepared by living with a couple of two-fisted sisters). However, it still looked as if he was controlling his own motion as opposed to being hit. So we decided to speed up the fight sequence to give it more zip, in a simple two-step process.

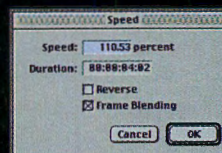
1 Use Final Cut's razorblade tool, located in the tool palette, to mark the beginning and ending points of a clip that contains the action you want to speed up—in our case, a kick or a punch.



Mark a clip for speedup with Final Cut Pro's razorblade tool.

2 Choose Speed from the Modify menu. Set the percentage to the desired rate. Speed things up by entering amounts over 100 percent. We used approximately 110 percent, which looked about right to us—if you make it too fast, the action just looks silly. Slow things down by entering amounts less than 100 percent.

The speedup makes the fight scene look more impressive, as Miriam throws Raf over her shoulder at apparently breakneck speed.



Adjust the speed of the clip in the Speed dialog box.

Speeding up the action makes Raf appear to hurtle through the air.



STEP 4. DOUBLE TROUBLE

Having one actor play two characters in the same scene—say, Bette Davis and her evil twin—is an old movie trick. In our rendition, Miriam-Buffy and Miriam-Willow appear to talk together in two shots. In the old days, movie houses accomplished this trick with mirrors, split screens, body doubles, and other effects. But with digital tools, you can put as many copies of yourself or your actors into a shot as you like. Getting it all to *look* good takes more planning and effort.

FILMING FOOTAGE

First things first: Even though you'll be doing most of the effects work on your Mac, you still need to set up shots involving doubles (known as *doppelgänger* shots) carefully when you're on location. Here's how:

- 1** Lock down the camera and brace the tripod securely. Aim the camera so the field of view has ample room to hold both characters, even though you'll only be shooting one at a time.
- 2** Pose the actor so he or she has the correct line of sight. In our case, we made sure Miriam appeared to be looking at her double.
- 3** Have the actor perform all of the lines for character 1. Immediately have her change costumes, assume the post for character 2, and do that character's lines. The key is to do it all quickly so you get as little change as possible in the lighting and background.

COMPOSITING THE SHOTS

Once you have the footage, bring it into Final Cut and follow these steps:

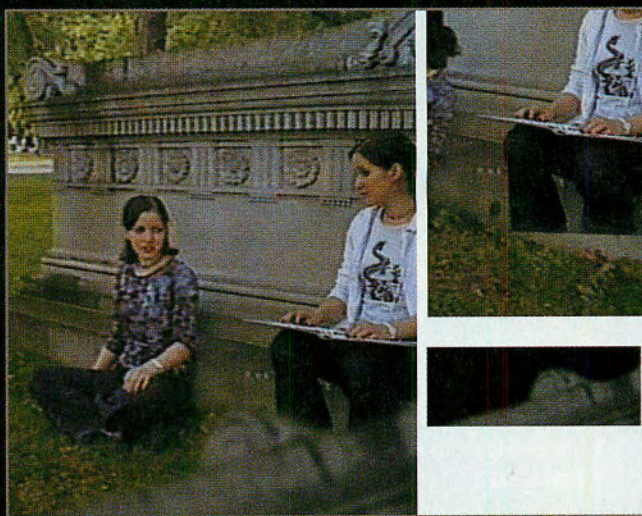
- 1** Superimpose a set of two clips, one for each double, on a simple transparency. Just drag one clip onto the other and adjust the topmost clip's opacity as needed.
- 2** The clips may mesh perfectly, but if they don't, adjust the timing of each using the same technique as we did for the fight sequence's speed (see step 3, p42). The point is to speed up or slow down parts of each character's action so their conversation meshes correctly. In our screen test, we slowed down several of Miriam-Buffy's nonverbal reactions so Miriam-Willow's lines could fit between them. Just use restraint, or your characters will look as if they are in slow motion.

- 3** Once you work out the timing, create the split screen with Final Cut's Garbage Matte filter (so named because filmmakers often use it to remove unwanted garbage from the edges of a frame). You'll find this filter in the Matte folder under the Effects tab in the Browser. This filter allows you to draw a simple polygonal mask (a *matte* in effects lingo) that cuts off part of the image. It's extremely important to blur and feather the matte edge so it blends imperceptibly with the image behind it.

In our screen test, we drew a simple matte in the crypt area between Miriam-Willow and Miriam-Buffy, then used the filter settings to put a ten-pixel feather on the matte's edge. This blended the images perfectly, even though the lighting differed perceptibly in each shot—we didn't even need to perform further matte work or touchups.



To composite two scenes, layer shot 1 over shot 2 in Canvas, then draw a simple matte using Final Cut's Garbage Matte tool. The numbers, which are part of Final Cut Pro's display, refer to control points in the 8-corner matte separating the two versions of Miriam.

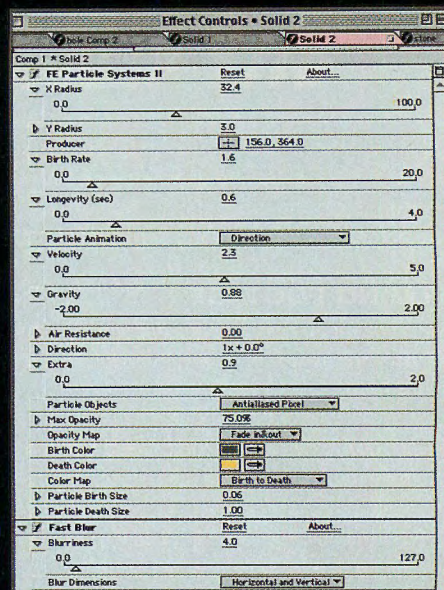


When we comped the next shot, Miriam-Willow's feet (at right) got cut off above the bottom of the frame. We snipped a blurry bit of the crypt off the top and layered it as a foreground element to hide the problem.

STEP 5. DUST TO DUST

Adding particle effects—sprays of particles that simulate explosions, water fountains, fireworks, or, as in our screen test, vampires turning to dust—requires a trip out of Final Cut and into Adobe After Effects, the de facto compositing and 2D effects program for the Mac. In After Effects, you can composite footage with much more control than in Final Cut Pro. After Effects also allows you to accomplish some amazing things with third-party plug-ins. For the dusting effect, the most complex in our screen test, we used a particle generator in Media 100's Final Effects Complete. Companies such as Artbeats (www.artbeats.com) do offer premade particle movie-clip collections for much less than the cost of Final Effects—you could always just throw one of these clips into the mix, but it won't look as good as a customized effect.

The dusting effect requires many layers and mattes. Here you can see the layers we created and what each one does.



When Raf falls backward, we cut him out frame by frame from the original background using several mattes in a process called *rotoscoping*. We modified the shape of each matte to follow Raf's shape as he falls.

We used these settings in Final Effects' Particle System 2 to produce the vampire dust.



This animated mask spreads out from the center of Raf's body, making it increasingly darker and more transparent.



A large shower of dust particles emits from Raf's shape throughout the entire shot. Final Effects' Particle System 2 plug-in allows particle emission from a specific mask-defined shape—in this case, the same mask that grows out from the center of Raf's body. As the dark area spreads, the particle-emitting area also spreads, until it involves his entire body.



Dust particles leap up from the ground where Raf touches it.

The clean plate. We used a segment of the real shot, before Raf entered the frame.



This layer contains Miriam-Buffy. Here we use the same mask that isolated Raf to remove him from the shot entirely. As parts of him become transparent, the background or clean plate will show through.



We used a feathered matte to composite the Miriam-Willow footage over the rest.



This matte protects Miriam-Buffy's knees so the dust appears to fall behind them.



As we mentioned before, this out-of-focus foreground object hides the fact that we accidentally cut off Miriam-Willow's feet in the original footage.

STEP 6. LOOP-GAROU

Audio-quality problems invariably crop up when you are recording on location. Unexpected sounds (sirens, babies crying, subways, air-conditioning compressors turning on—you get the idea) always seem to happen just when your actor is giving her best performance, and those sounds can overpower the dialogue on the soundtrack. One way to deal with these problems is to fix the audio in postproduction by having the actor record the same lines in exact synchronization with the video—a process called *looping*—and then splicing in the new audio. Typically this also involves adding effects to the new audio to make it blend better with other sounds.

Sure enough, when we reviewed the sound in our video, we found our camcorder microphone had picked up the passage of a train, which drowned out a section of dialogue. Once we realized we'd have to do some looping, we decided to loop all of the lines so they would sound consistently clear.

For looping, you'll need a quiet place to record, the help of a pal, and two Macs set up side by side. Why two Macs? If you're working on one, you can't simultaneously record sounds and play QuickTime movies to see where you are in the dialogue. Once you have the equipment set up, follow these steps:

1 Set up Mac 1 with your audio recording program (we used SoundEdit 16, but there are other programs; see "Sound Alternatives," below) and a microphone. Do a few sound tests with the actor to check for audio levels and mike positioning.

2 Set up Mac 2 with the edited video in Final Cut Pro so you can scrub through the footage. (As an alternative, you can render out a QuickTime movie from Final Cut and use that.) This is what actors will look at when they read their lines and try to match their mouth movements to the footage. Provide a printout of the dialogue for reference.

3 Have the actor listen to the audio output from Mac 2 with headphones. Don't set the headphone audio too loud, or the microphone may pick it up.

4 On Mac 2, queue up the first clip to play in Final Cut Pro. On Mac 1, set the audio software to record. Quiet in the recording studio!

5 Record the audio. Do several takes of each line so you can choose the best one.

6 Splice the new audio into the edit. Nudge the clips back and forth on the timeline until they coincide with the video as closely as possible.

POSTMORTEM

We had a blast making the screen test, but getting there was all the fun. Unfortunately, Miriam's quest to join the cast of Buffy (at least for one episode) ended in failure—she didn't get the part. But that's show biz. And there's always next season...



That old workhorse, Macromedia's SoundEdit 16, is perfect for recording dialogue to loop.

TIP

If you don't have a second Mac to aid in the looping process, you can simply export your video to tape and do your dubbing from there—the frame rate should still stay constant at 29.97 fps.



Liberal amounts of Powerade kept the looping process flowing.

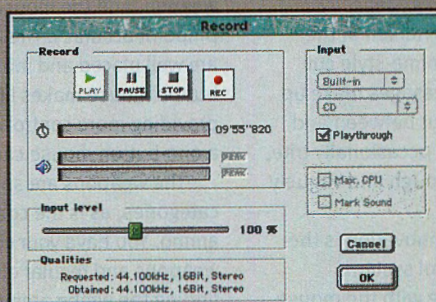
SOUND ALTERNATIVES

We used Macromedia's SoundEdit 16 as our audio-recording program of choice, but unfortunately the company is not selling this product anymore. Several alternatives on the market come in shareware form. Basically, what you are looking for is a program that edits audio waveforms. Here are some of the other audio-recording programs that should work for you:

Sound Sculptor II (\$30, http://members.aol.com/_ht_a/sculptorii/index.html)

Sound Studio (\$35, www.feltip.com/products/soundstudio)

Amadeus II (\$25, www.unige.ch/math/folks/haier/martin)



Amadeus, Amadeus...this little shareware program lets you rerecord any dialogue that gets drowned out by ambient noise.

reviews

It's (almost) all fun and games.

Oni

fun & games

Company: Gathering of Developers

Contact: 877-463-4263, www.godgames.com

Price: \$39.99 (SRP)

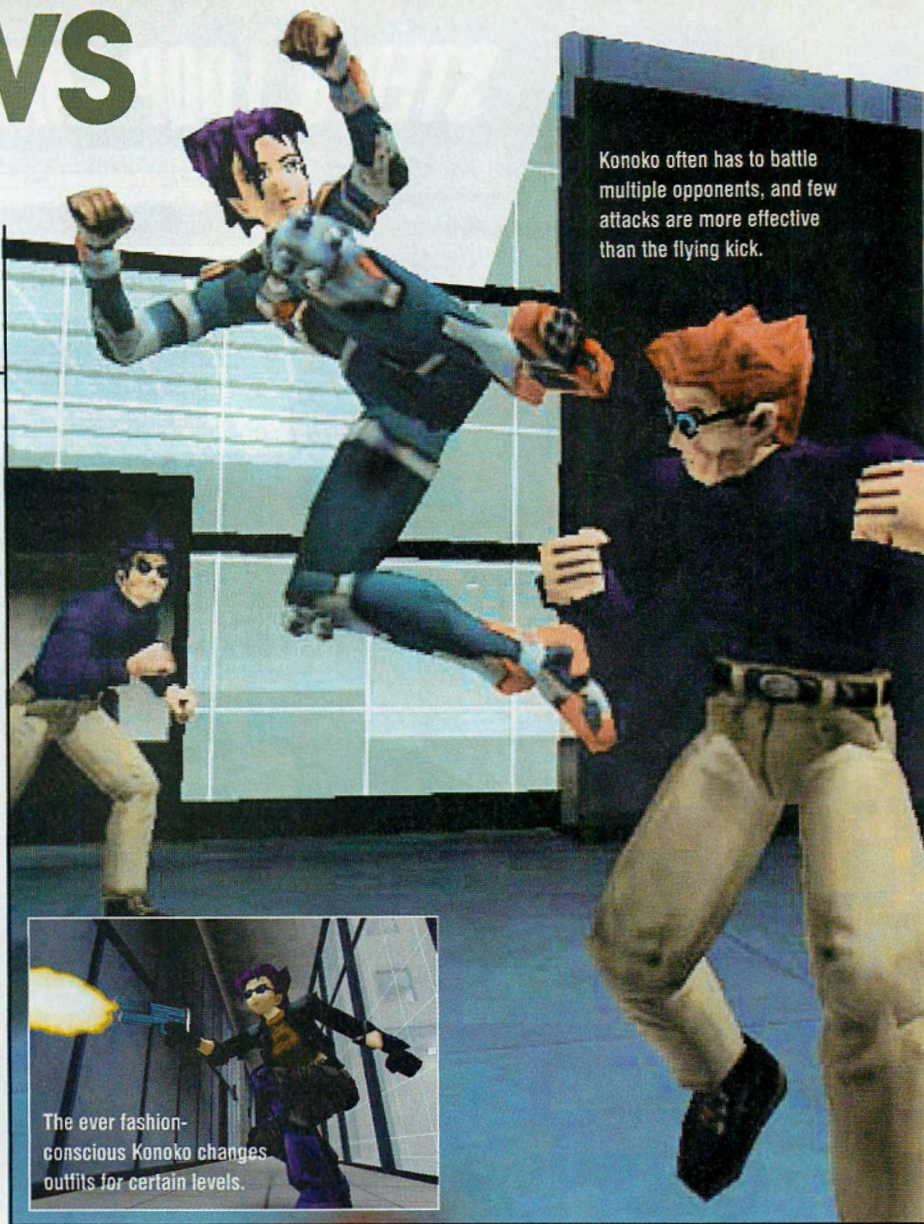
Requirements: 300MHz processor or faster, Mac OS 8 or later, 64MB of RAM, 800MB of free hard disk space, CD-ROM

For a fleeting moment at the beginning of Oni's development, the game was deemed a Macintosh exclusive. While Mac gamers missed out on a chance to be smug about our new toy (PC and PlayStation2 users will be playing this game at the same time as we are), Oni has that distinctive Bungie-Mac feel and has been a long time coming. The result was well worth the wait, and it might just tide you over until Halo, Bungie's next blockbuster game, arrives.

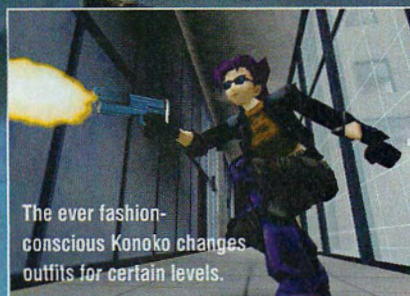
Oni features a central female character with perfectly normal physical proportions who wears modest, even practical outfits. This jarring departure from the norms of video gaming is as refreshing as it is unexpected. Our heroine must rely on her wits, marksmanship, and martial arts skill. But this game isn't simply a sexless redux of Tomb Raider, it's a rich and full experience that innovates as well as borrows from other genres.

The plot—though we don't want to give away too much—startlingly resembles Fox's *Dark Angel* TV series in some respects, though Oni has actually been in the works longer than that show (and the theme is hardly unique). A young woman named Konoko, struggling with fragmented memories and gifted with genetically enhanced abilities, finds herself at the center of a conspiracy. Anime-style cut scenes and incoming messages make up the stories, which play out between and during missions. Though occasionally trite, the plot is engrossing enough and vaguely relevant to the action.

The most important innovation is the game's remarkable control system. Watching players struggle with the mouse, you might ask, "Why not use a joystick?"



Konoko often has to battle multiple opponents, and few attacks are more effective than the flying kick.



The ever fashion-conscious Konoko changes outfits for certain levels.

After all, the game's arcade nature would seem to fit console-style controls. On closer inspection, however, you'll find that Oni's control method is one of its major attractions. Using Quake-style mouselook in a third-person perspective works wonderfully, even for the twitchy close-combat mode. (What's mouselook? See "Control Freak," p47, for the answer.) A laser sight pops up when you have a loaded weapon, and the mouselook allows for pinpoint accuracy. The keyboard controls are well placed and intuitive, but a three-button mouse makes life easier by providing more control over movement than a one-button mouse can.

The weapons are split into two distinct categories, as is the conveniently located ammo. You have your choice of energy weapons and regular old ballistic guns, and finding the wrong ammo for your gun when you're in a tight spot is not funny. But the

precise aim of these weapons is pure joy (although we'd expect a bolt of stellar-hot plasma to do a little more damage than making an ordinary footsoldier go "Ow"). The ballistic guns also feature realistic recoil, which causes some weapons to drift as you shoot—so you have to steady your aim on the fly.

The hand-to-hand combat is hugely enjoyable. Konoko strings together combinations of kicks, throws, and punches, and she can pick up new techniques as the game progresses. She learns these techniques from her opponents—a nice touch. The weapons strewn throughout the game make for quicker progress through the levels, but stealth and brains are frequently required. Konoko can creep silently and hide when necessary. The puzzles in each level are hardly mind bending, which is good when you want to concentrate on kicking butt.



Find a demo of Oni on The Disc.



FREAKIN' AWESOME!
The most valuable products, the coolest gizmos.



SPIFFY
A solid offering. Overall a good investment.



YEAH, WHATEVER
Neither recommended nor rejected. Some might like this, but we weren't impressed.



BLECHI
Give us back the time we spent testing this.



Unfazed by the mighty robot attack, Konoko smiles wryly.

Throughout the game, your progress is saved automatically, and the designated save points are among the most convenient we've seen—although the points do make some levels a little easier than they ought to be. But for the most part, after death you pop back to the last save point with all the stuff, weapons, and energy you had before you bought the farm. You can also heal yourself with hypo sprays, found on the floor or occasionally offered by grateful civilians; this gives you a degree of impunity.

From the arcade and console world, Oni borrows end-of-level bosses—bigger, stronger bad guys whom you must defeat to progress to the next level. These guys have weapons and superb martial arts skills, and battling them in a free-roaming 3D environment requires strategy as well as timing. It's one of the most enjoyable parts of the game, but some opponents are tough enough so frustration may creep in. However, the 3D universe lets you use architecture to avoid, confuse, and trick the bad guys—for example, you can lead them into traps or perform a flying kick from a handy ledge.

The plot affects how you play the game. As Konoko learns more about her past, she also learns more about her abilities, and she gets pretty darned tough toward the end. Pay attention to the cut scenes, which provide mission hints. You can make poor choices—one really big example comes up at the end of the game—but if you choose carefully, you should do well.

We encountered some weird bugs and glitches. A couple of times the game simply refused to recognize mouse buttons, and the graphic mode change rearranges your

Control Freak

Oni has superb controls. A reconfigurable text file lets you adjust them to suit your taste, but the default settings should fit most players perfectly. You aim and navigate in 3D using mouselook. This feature allows you to control your character's point of view using the mouse. To look up, for example, you pull the mouse back (you can reverse this direction if the aircraft-style reversal isn't to your liking), and to look down, you push the mouse forward. You use the keyboard to run forward, run backward, and sidestep.

The cool thing about this method is that you can run in one direction while shooting or even kicking in another. This flexibility and responsiveness is one of the factors that makes Oni stand out clearly in the world of third-person (over-the-shoulder viewpoint) action games. It also translates surprisingly well into hand-to-hand combat—a game style traditionally conceived with much simpler controls. Konoko actually fights in 3D rather than on the 2D Street Fighter-style plane to which players have become accustomed. It actually makes a difference when she attacks from different angles.

desktop when you quit. It's wise to follow the cool instruction mode—the very first level you'll encounter—to the letter. If you try to get ahead of what Oni tells you to do, the game forgets what the heck is going on and won't allow further progress. Restarting the software solves all of these problems.

The final product is a gem—fun, rich, and hopelessly addictive. Sharp, smooth graphics assist the rapid-fire gameplay, and the cool control scheme makes the game a joy to play. Oni is a brilliant title and an instant Mac classic. —Frank O'Connor

good news: Stunning gameplay design.

Brilliant pacing. Heroine relies on her awesome abilities, not her cup size.

bad news: Bland environments.

Occasional bugs and glitches.



However, the too-similar look of a few levels can make it easy to get lost or confused. The game designers employed the services of an architect who obviously came straight out of Orange County, California—this is Blandsville.

The character graphics and animation are excellent, and the game runs very smoothly and quickly, perhaps a payoff. Oni cleverly eliminates clipping—a problem in many 3D games where walls and objects occasionally obscure your view—by making said obstacles transparent when they come between you and the action. It's a cool, slick, well-designed approach.

audio

CUBASE VST/32 P50
REASON 1.0 P52

hardware

FOTOSHOW P53
EPSON STYLUS COLOR 7771 P60

fun & games

ONI P46
JEOPARDY P53
RUNE P54
SIMTHEME PARK P56
MONOPOLY P59
MAJESTY P62

productivity

QUICKEN TURBOTAX DELUXE FOR MAC P48
KIPLINGER TAXCUT MACINTOSH DELUXE P48
IDL 5.4 P58
OMNIS STUDIO 3.0 P61

utilities

REWIND P59

Tax Software Showdown

productivity

Quicken TurboTax Deluxe for Macintosh

Company: Intuit

Contact: 800-335-1348, www.intuit.com

Price: \$49.95 (SRP)

Requirements: PowerPC, Mac OS 7.6 or later, 16MB of RAM (32MB recommended), 45MB of free hard disk space, 12-inch monitor, 2X CD-ROM (4X recommended), 14.4-Kbps modem (28.8-Kbps recommended)

Kiplinger TaxCut Macintosh Deluxe

Company: Block Financial

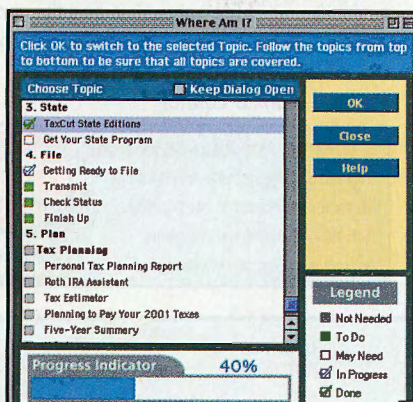
Contact: 816-504-1500, www.blocksoft.com

Price: \$29.95 (SRP)

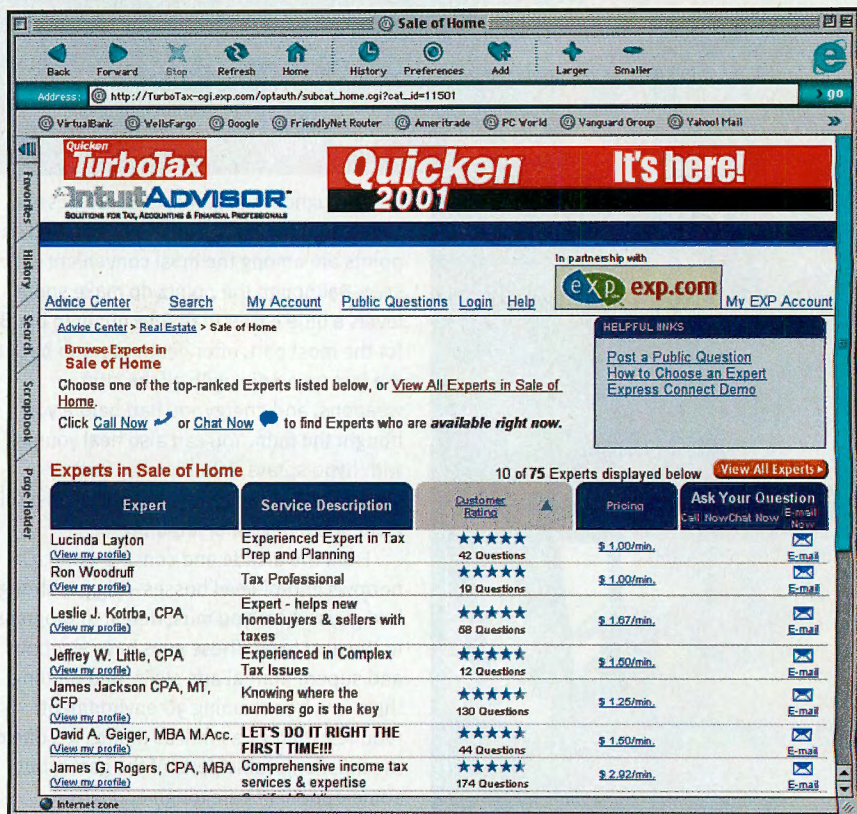
Requirements: 68030 processor or faster (PowerPC recommended); Mac OS 7.5.3 or higher; 5MB of RAM; 30MB of free hard disk space; 640 by 480, 256-color monitor; 2X CD-ROM

Nothing is as certain as death and taxes. Given a choice between the two, some people might peek over the precipice before tackling a stack of U.S. tax forms. Block Financial's Kiplinger TaxCut Deluxe for Macintosh and Intuit's TurboTax Deluxe for Mac (formerly known as MacIntax) certainly don't remove the pain from paying your government dues, but they may ease the drudgery of preparing them.

A whirl of confusing coupons and rebates surround tax software—you'll have



TaxCut Deluxe tells you how far you've progressed in filing your taxes, keeping a tally of what forms you've completed (or may need to complete) to finish your return.



Everyone's an expert. The experts available from TurboTax's Live Help Advisor service have lots of stars beside their name—even the shouters come highly recommended.

to study them to figure out the best deal. Intuit offers a \$10 rebate on its core TurboTax software, but only to Windows users. The basic versions of the federal tax software—which omit talking-head videos and some extra tax publications—cost less than their fuller Deluxe versions, but they don't include the state software.

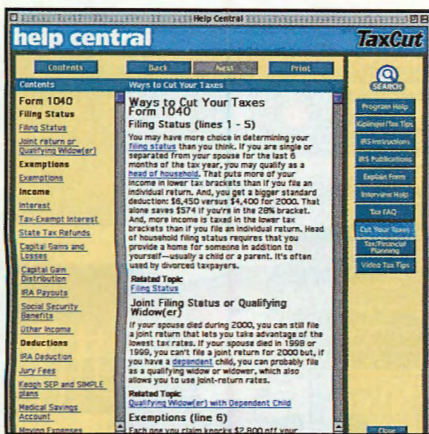
Both TaxCut and TurboTax shipped on CD-ROM in December 2000, but Uncle Sam wasn't quite finished with its forms. Both applications checked for software updates when we started them up for the first time in mid-January. TurboTax warned us of an update. When we clicked to download this, the software didn't alert us to the update's file size (our estimate: 3.5MB) or download status. Just when we had concluded that the application had crashed, it began installing the update.

Both applications also require you to download add-ons from their Web sites for your state taxes. TurboTax offers modules

for the 46 states that impose a state income tax, while TaxCut for the Mac only covers 26 states (the Windows version includes all 46 states). TurboTax allows you to download one state module for free (or pay \$5.95 for shipping a disc); TaxCut for the Mac charges a price of \$19.95, refundable if you fill out a rebate coupon. Both applications require you to pay for electronic filing up front, then get it back via a mail-in rebate.

If you've used tax software in the past, you can get a fast start on this year's returns by transferring data from last year's data file to this year's software. TurboTax can even transfer data generated in TurboTax for Windows—as long as you copy the old file onto a PC-formatted floppy disk (trying to copy it from your Mac hard drive won't work.) TaxCut can only import from previous Mac versions. However, both applications can import data from Intuit's Quicken.

A new TurboTax feature called Automated Tax Return (ATR) allows you to



TaxCut's Help section is clogged with topics, links, buttons, and text—all in one big, confusing window.

download such tax data as wages, interest, dividends, and stock transactions from payroll companies and brokerages. Intuit says 15 to 20 million accounts offer W-2 and 1099 download access. Unfortunately, for now only seven large companies are allowing access to these accounts. When we tried to download data from one of these companies (the Vanguard Group), we got a message telling us the data wasn't ready yet. The process seemed quite simple, though; ATR should shave lots of time off the data entry portion of your return, should your forms turn out to be online accessible.

While both programs can't help but bombard you with tax jargon, TurboTax explains complicated topics more clearly than TaxCut. For example, typing *carryover* in TurboTax's Tax Help dialog box provided us with the full name and easy-to-understand explanation of the tax term *capital loss carryover*. In contrast, typing the same word

into TaxCut's help search tool, RapidFind, didn't yield any results—we eventually got them by typing in the entire term. Also, the explanation we received from TaxCut was not as clear or thorough as TurboTax's.

While both applications display the actual tax forms in panes below their question-and-answer dialog boxes, only TurboTax allows you to switch between the Q&A and the tax forms at will, typing in each pane as you see fit. If you try to switch to a tax form in TaxCut, the application will strongly suggest you work on the form without its assistance. With either application, typing in the dialog box updates the tax forms, and vice versa. But when you type in TaxCut's dialog boxes, the tax form below blinks distractingly as it updates. Almost as distracting is Intuit's use of small banner advertisements alongside some windows in TurboTax.

Occasionally you'll need to go back a window or two to check your work. TurboTax always recognized which window we wanted to go to, but TaxCut frequently took us back to the beginning of a section, so we had to forward through several windows to get to where we wanted to go. However, TaxCut does offer a helpful Where Am I box, complete with a progress indicator that shows how much you've completed.

When you complete a field in TaxCut, the application places a small button next to the field; click the button and a pop-up window appears, in which you can mark the field as tentative. TaxCut will remind you to check that field later. The pop-up window can also tell you which form the data will go into (for example, your name will go in Form 1040, Line 1) or where the data came from. Another nice touch: When we entered *editor* in the occupation field, the program suggested that if we did any freelance work, we might be able to deduct home office expenses. We got a suggestion to deduct bar membership when we entered *attorney*, but no extra advice popped up when we entered *realtor* or *mechanic*.

Both TaxCut and TurboTax show context-sensitive, hot-linked FAQs down the right side of the application windows; you can click an FAQ to bring up a related help topic window. TurboTax presents help text in a more readable window that's small but resizable. TaxCut pours everything into a big box that has several other elements inside it.

Web-Based Tax Filing

April 15, 7:30 p.m., PST: Do you know where your taxes are? With more computer users gaining high-speed Internet connectivity and confidence that their data is safe on the Web, it's time to take another look at online tax filing.

Intuit's TurboTax for the Web costs only \$14.95 for Federal returns filed before April 1, \$19.95 thereafter. If you're a 1040EZ filer, you can file your Federal return for just \$6.95 before April Fool's day. Block Financial doesn't offer Web-only tax preparation.

That April 1 deadline is more than an early-bird special—last year, Intuit's TurboTax filing site slowed to a crawl on the final day of filing. But even with a DSL connection and sparse site traffic in January 2001, the site still seemed slow, especially compared to that of the TurboTax application. At least your data's secure: The site uses 128-bit encryption.

For simple returns, TurboTax for the Web will save you a trip to the store. But if you just want to save money, we suggest that you try Kiplinger TaxCut Deluxe on CD-ROM instead.

Still not sure you're reading the tax code correctly? TurboTax offers live tax advice from online professionals via phone, email, or live online chat. Some of the experts Intuit has lined up cost big bucks—up to \$5.83 per minute when we looked—but others cost as little as 15 cents per minute.

Our final verdict? For the tax weary but computer savvy, either application will ease the task of filing your taxes. Block Financial TaxCut's cut-to-the-bone price makes it a real bargain, but Intuit TurboTax enjoys a slight edge in features and usability.

—Alan Stafford

Feature Comparison

Feature	TurboTax	TaxCut
Videos	Yes	Yes
Includes free state software	Yes	Yes
Includes free electronic filing	Yes*	Yes*
State software downloadable from within application	Yes	No
States covered	46	26
Transfers data from earlier versions	Yes, Mac and Windows	Yes, Mac files only
Automatic 1099 and W2 downloading	Limited	No
Imports from Quicken	Yes	Yes
Includes IRS publication	Yes	Yes
Error checker and/or auditor	Yes	Yes
Paid live advice	Yes	No

*After mail-in rebate.

TURBOTAX

good news: Smooth navigation. Clear, thorough Help section. Live help available. **bad news:** Costs more than TaxCut. Advertisement buttons within windows. Live help can be expensive.



TAXCUT

good news: Runs on older Macs. Inexpensive. **bad news:** Slightly clunky navigation. Help feature could be clearer.



Cubase VST/32

audio

Company: Steinberg

Contact: 818-678-5100, www.us.steinberg.net

Price: \$599 (SRP), \$149 (upgrade)

Requirements: 200MHz 604e processor or faster (G3 recommended), Mac OS 8.5 or later, 64MB of RAM (128MB recommended), 140MB of free hard disk space (approved MME- or ASIO-compliant sound card recommended)



Find a demo of Cubase VST/32 on The Disc.

Steinberg's Cubase VST has become extremely popular on the basis of its power, ease of use, and expandability via VST audio plug-ins. Now Steinberg is releasing Cubase VST/32, its top-of-the-line MIDI sequencing and audio product. The addition of VST instruments, 32-bit audio with TrueTape technology, and built-in Apogee UV-22 make it a compelling upgrade for musicians, producers, and audio engineers.

First let's take a look at the feature that put Steinberg on the cutting edge of digital audio production—Virtual Studio Technology (VST). The beauty of this widely adopted standard is that it allows Cubase users to load third-party plug-ins, such as audio effects (reverb, echo, and chorus) and even virtual instruments. This new version of Cubase VST comes bundled with new audio plug-ins and four virtual instruments. The audio plug-ins consist of the required variety (reverb, delay, and dynamics) as well as some nifty special effects like Symphonic (a stereo enhancer and autopanner with time sync) and Metalizer2 (a frequency filter).



Apogee's UV-22 is the industry-acclaimed algorithm for turning high-resolution files into high-quality CD-ready audio.



With the included VST instruments, you won't need to buy any MIDI hardware to make music.

Steinberg revamped the interface for some of these plug-ins so they provide better visual feedback for the effects. For example, when you increase or decrease the Room Size parameter in the Reverb32 plug-in, a graphic of a cube grows or shrinks. This interface is more intuitive than the numerical interface of the previous version, which didn't communicate visually what your settings would sound like. Plus, the new reverb sounds better—although not as good as a mid- to high-priced hardware reverb unit. Still, you can't beat the fact that the program comes with two free reverb units, right out of the box.

Also available out of the box are four bundled VST instruments: the Neon, a simple polyphonic synthesizer; VB-1, a polyphonic bass synth modeled on the properties of an electric bass; LM-9, a nine-voice drum machine; and the incredible Universal Sound Module. USM is a virtual General MIDI instrument, which offers 128 different instruments, including grand pianos, choirs, glockenspiels, and helicopter sound effects. You can route all of these instruments to any audio channel, which means you can apply EQ, panning, and VST audio plug-ins to them just as with a regular audio signal. Any musician could realistically buy this program and start composing music without setting up hardware MIDI synthesizers and interfaces—or even cables, for that matter. This ease of use makes songwriting collaboration through the Rocket Network much more efficient than in the previous version of Cubase (see "Get RocketPower," right, for more information.)

Great news for those lucky dual processor G4 owners: Cubase VST/32 is G4

enhanced and makes intelligent use of the two processors—more so than the previous multiprocessor-aware version. In the past, when you set up Cubase to take advantage of the two processors, one handled MIDI information, audio file tasks, the program's interface, and the Mac OS; the other handled all the VST audio tasks. Though this was a good setup, it wasted power on the first processor—power your Mac could use to compute VST tasks. Frowning on waste, the programmers at Steinberg created the Advanced Multi-

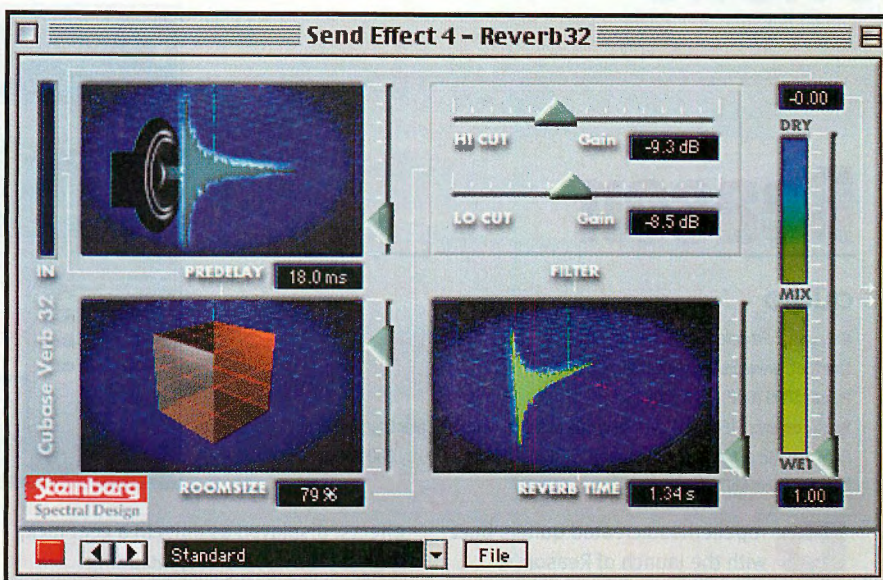
Get RocketPower

All registered Cubase VST users have access to RocketPower—a suite of free downloadable programs that allows them to log on to the Rocket Network (www.rocketnetwork.com) and collaborate with other musicians. The Rocket Network service lets artists work with songs stored in a central Internet recording studio. Because VST/32 includes the Universal Sound Module, songs with general MIDI tracks using that technology will sound exactly the same on all VST/32 owners' computers because they have the same built-in sound source. In the past, an external MIDI sound module generated the sound, which meant the song sounded different on various systems. Although the General MIDI instrument set itself was a standard, the actual sounds these modules produced had their own tone. Also, because only the MIDI information, not the actual sounds, transfers through the Rocket Network, uploading and downloading songs takes less time.

Processor option, which maximizes the efficiency of a dual-processor setup. On the downside, some third-party VST plug-ins may not work with this option, as they access system routines not accessible from any CPU other than the main one. This problem causes the second processor to go into a halt state, requiring a system reboot before you can use the second processor again. Steinberg is in constant contact with developers, so you should be able to update the affected plug-ins.

So what's all this commotion about Cubase's new 32-bit audio option? CD audio has 16 bits of resolution. Current audio production systems have up to 24 bits of resolution, which provides a higher dynamic range and handles lower levels of audio with better precision. The 32-bit option means several things. First of all, audio captured at 24 bits (hardware dependent) has extra bits of information left over for DSP (digital signal processing) tasks. Second, as 32-bit audio becomes a standard, the program will be ready to handle it. Finally, it gives Steinberg a good reason to introduce its TrueTape technology, which simulates the sound of old-school analog recording.

Why would anyone want to make digital audio sound analog? A lot of artists feel that digital recording sounds too clean and sterile, and they're right. That's because digital recording technology discarded certain characteristics of analog tape. Some analog quirks, such as tape hiss, we can gladly live without. Others sound pleasing, like the saturated distortion that results from setting your recording levels a little too loud. If you record digitally, however, the recorder doesn't know what to do with levels that go above a certain point, resulting in an entirely



We'd throw out the old Wunderverb3 plug-in (below) for the new Reverb32 (above) any day.



undesirable glitchy, clicking sound. Cubase's 32-bit TrueTape avoids the clicks by modeling the effects of tape saturation with those clipped portions of audio. This makes it almost impossible to distort the audio digitally when recording in this mode.

One more new feature is worth mentioning: Apogee's UV-22 dithering

algorithm, an industry-acclaimed code for downsampling high-resolution audio (20, 24, and 32 bits) to a 16-bit CD-ready format. You can perform bit reduction in two ways: by truncating and by dithering. Truncating is basically lopping off information to fit a lower bit rate. This causes audible distortion in the downsampled file, usually in the quieter passages. Paradoxically, dithering *generates* distortion to keep downsampled files clean. Confused? Just know that Cubase VST/32's built-in UV-22 will yield higher-quality CD-ready audio.

The impact of Cubase VST's technology on the digital audio production market has grown to the point where it's going to compete with much more expensive, hardware-based workstations such as ProTools. It even excels as a MIDI production workhorse, a function ProTools can't even touch. If there is one all-purpose music production solution on the market, it's Cubase VST/32. —Andrew Tokuda



The red clipping light used to mean you were in for a digital nightmare, but with TrueTape, those worries are a thing of the past.

good news: New, unique 32-bit audio. TrueTape technology. Built-in VST instruments. Intelligent multiprocessor capability. **bad news:** Reverb quality could be better.



Reason

audio

Company: Propellerhead Software

Contact: www.propellerheads.se

Price: \$399 (SRP), \$310 (street)

Requirements: 166MHz Power Mac 604 or faster; Mac OS 8.6 or later; 64MB of RAM; 530MB of free hard disk space; CD-ROM; 256-color, 800 by 600 display; MIDI interface; MIDI keyboard

Propellerhead created quite a buzz with the launch of Reason, a virtual MIDI studio offering everything the electronic musician needs to make and record music on a Mac, so we were excited to test it. Our verdict: Reason ranks among the best song-creation applications, useful for anyone who digs making music.

Stuffed onto two CD-ROMs, Reason offers a comprehensive set of today's major electronic studio tools, which we easily installed onto our 450MHz G4. We found a slew of audio instruments—digital sampler, analog synthesizer, pattern sequencer, 10-channel drum machine, and audio loop player—as well as great companion sounds. A 14-channel mixer and audio-MIDI router handle mixdown and setup. Reason also includes effects like delay, reverb, distortion, and filter.

Reason's user interface consists of one window split between the instruments and the sequencer. The instruments and

effects, displayed as units in a gear rack, look extremely realistic, including handwritten labels and cables that connect everything from behind (the Tab key on your keyboard toggles the front and back instrument views). This layout makes patching and using instruments intuitive. The track-based sequencer looks and acts like most others on the market, offering arrangement and edit views, options for event quantization, and live or step recording.

We began making beats on the 10-channel Redrum drum machine using host sounds included with the software as well as a custom snare sample of our own. We created some drum patterns and continued to the Subtractor, a synthesizer utilizing in-board synth sounds (stored in Reason's ZYP format), which you can alter and save. We created a tone and made some riffs for our beats. Almost immediately we noticed how great the Reason instruments sound. Their

instrument parameters (which allow the user to tweak samples) alter the original sample without making it sound artificial, as many other virtual instrument applications tend to do.

Next, we imported a sound to Reason's NN-19 sampler. Using the included OMS (Open Music System), we triggered the sampler from our external MIDI controller. By clicking

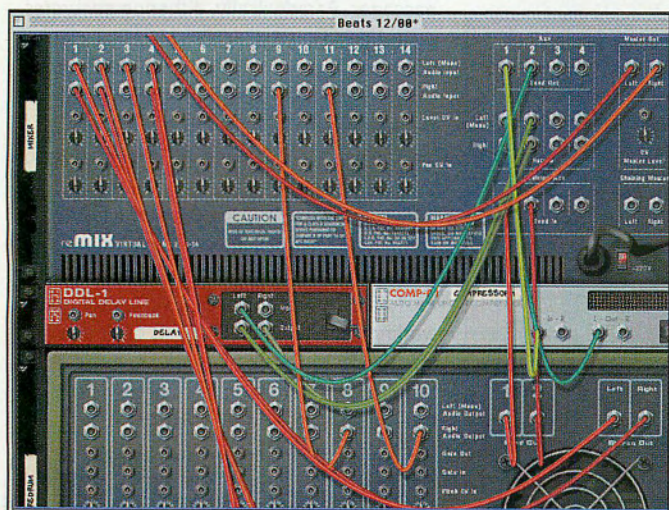
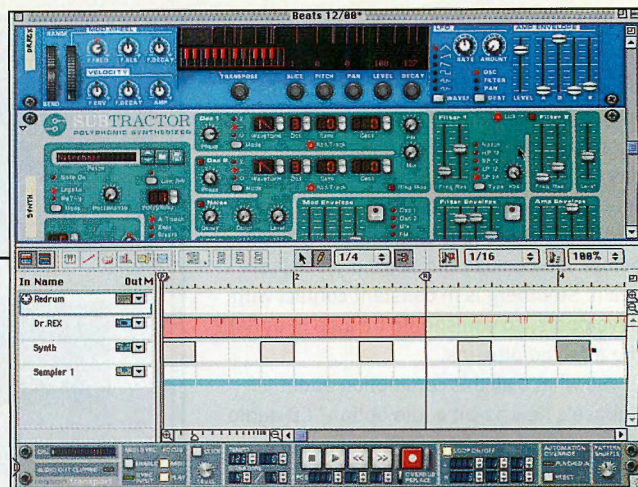
the sampler track's In column in the sequencer and pressing the record button, we recorded a live pass. We repeated the

The main window pulls double duty, handling instruments and effects above, sequence arrangement below.

process with another Reason instrument, the Dr. Rex loop player, triggering and recording beat slices to a sequencer track. Reason supports Rewire, an extension-based technology for transferring audio and sync data between applications (such as software sequencers) in real time. With it, we triggered our external sampler and synths in sync via Cubase. One flaw is that we couldn't do everything in one application because Reason's sequencer only recognizes its own instruments. Plus, no current support exists for Pro Tools (Direct Connect). So if you're using Digidesign software for sequencing and hard disk recording, you can't interface Reason as a live instrument with your ProTools sessions.

We mixed the sounds via the reMix mixer, applying effects and automating faders by recording movements into the sequencer. The effects sounded very convincing, and we loved having the ability to automate practically every parameter on every Reason device. Finally, we exported our song as an audio file via the Export Song option in the Files menu. Reason exports files as WAV or AIFF at up to 24-bit resolution.

This is awesome stuff, friends. Reason is easy to use, the interface looks fantastic, the sound is great, it doesn't kill the CPU, and the effects aren't cheesy. This is a dope ware, which we highly recommend for users at any level (and no, we don't work for Propellerhead).—Andrew Reid



You can make connections via these virtual cables on the back of the gear. This interface offers multiple configurations for the user and looks great, too.

good news: Beautiful GUI. All-in-one architecture. Excellent sound quality. Great companion sounds.
bad news: Onboard sequencer doesn't support external MIDI devices. No Pro Tools (Direct Connect) support.



Jeopardy

fun & games

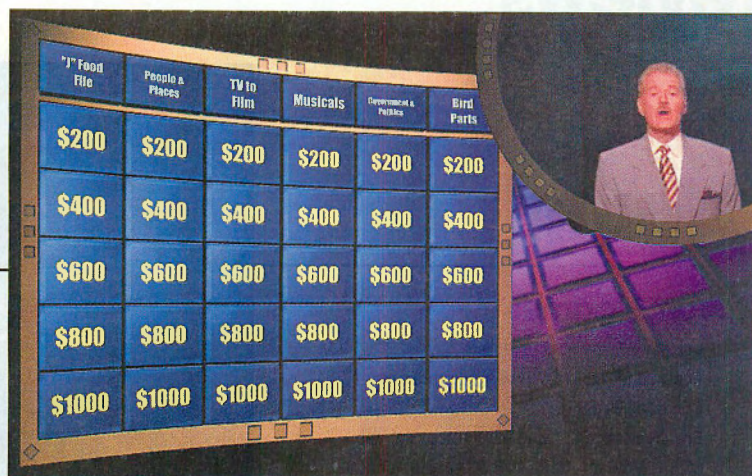
Company: Hasbro Interactive and MacSoft

Price: \$29.99 (SRP)

Contact: 800-229-2714, www.wizworks.com/macsoft

Requirements: 132MHz PowerPC or faster, Mac OS 8.1 or later, 32MB of RAM, 25MB of free hard disk space, 14X CD-ROM

Would
Jeopardy be
the same
without Alex
Trebek? We
think not.



As Bertram Russell once said, there is much pleasure to be gained from useless knowledge. Accumulate enough of it, and you can make conversation at parties and appear on TV quiz shows. You can also win computer trivia games, which brings much pleasure indeed.

MacSoft's version of Jeopardy arrives in time to take advantage of the nation's current trivia-show craze. Unfortunately, what could be an excellent transformation falls a bit short.

Jeopardy wouldn't be the same without host Alex Trebek, and he makes in-game

appearances via video, providing encouragement ("That's it exactly!") or sympathy ("Regrettably, no") after you type in your answer.

Jeopardy's worst problem is that it occasionally didn't accept correct answers. And as any competitive being knows, nothing is more aggravating than not getting credit when you've rightfully won.

Far more often, some of the same questions appeared over and over (even in our first two games!). Eventually, we could easily beat the computer opponents just because we remembered the answers.

You can set the buzz-in time, response time, and skill level (which affects how "smart" your computer opponents are). Like *You Don't Know Jack*, Jeopardy is much more fun to play when you're competing with real human opponents.

If you're a trivia buff, there's plenty here to keep you entertained. But we're going back to watching it on TV.

—Carrie Shepherd

good news: Captures the TV show's feel. **bad news:** Oft-repeated questions and technical glitches.



FotoShow

hardware

Company: Iomega

Contact: 800-697-8833, www.iomega.com

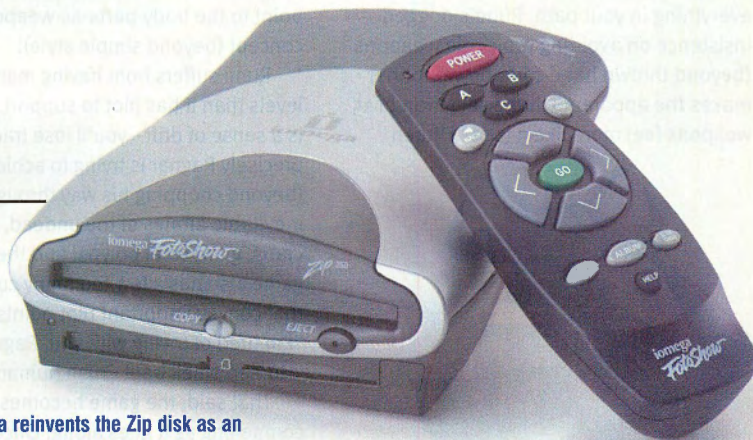
Price: \$249.95 (SRP)

Requirements: G3 processor or faster, Mac OS 8.6 or later, 6MB of free hard disk space, 2X CD-ROM

We're tired of photos falling out of the family album, we're sick of banging heads with grandma when we look back at little Ike's bris. With the new FotoShow from Iomega, you can store your pictures on inexpensive Zip disks and view them on your television—a great way to sort images.

In addition to its ability to pull images from both SmartMedia and CompactFlash media cards, the FotoShow includes RCA and S-Video outputs. Combined, these features make for an excellent multimedia package. You don't even need a computer to edit your photos. With a push of a button, we

Iomega reinvents the Zip disk as an easy way to store digital pictures.



were copying images from SmartMedia to Zip disk and adding captions to our Macworld San Francisco pictures, all on the television. FotoShow allows you to crop, resize, and even fix red-eye problems in digital snapshots on TV using the included remote. However, if you prefer to alter the photos in another digital editing program, feel free. You can even convert Microsoft PowerPoint presentations into slideshows.

Hooking up FotoShow to our computer and TV was a snap. Unfortunately, FotoShow only reads DOS-formatted Zip disks, but this

is only a minor inconvenience unless you've upgraded to Mac OS 9.1. As of press-time, Mac OS 9.1 had difficulties reformatting Zip disks in PC format, even with Zip Tools.

Despite a few drawbacks, overall the Iomega FotoShow is a photo finish winner.

—Ryan Adams

good news: Doubles as a Zip 250 drive. Easy way to organize digital images. Basic photo editing. **bad news:** Required PC-formatted Zip disks. Slow copy speeds.



Rune

fun & games

Company: Gathering of Developers

Contact: 877-463-4263, www.godgames.com

Price: \$39.99 (SRP)

Requirements: PCI-based Power Macintosh, Mac OS 8.1, 64MB of RAM, 400MB of free hard disk space, OpenGL-based graphics card with at least 6MB of VRAM

Imagine a game in which you can kill a goblin, then pick up his head and use it to smash another goblin. Imagine a game in which you can hack your way through armies of the undead, who wield a wide variety of nasty-looking sharp objects. Now imagine that said game is somehow monstrously, mind-bogglingly dull. You've conjured up a mental image of Rune.

Rune's greatest problem is that hacking your way through armies of the undead sounds much more interesting than it is—in practice, a third-person shooter without any shooting turns into a long, tedious run through levels where you simply bash everything in your path. Rune's dogged insistence on avoiding projectile weapons (beyond thrown hand-to-hand weapons) makes the apparently huge selection of 15 weapons feel more like 3 (see "Fifteen



If you reach Thorstadt before the sheer boredom of the underworld kills you, the plot will finally begin to move along.

Weapons for the Stylish Viking," p55). Ragnar (the Viking main character, who at least boasts an impressive-sounding name) can also pick up the heads and arms of mutilated opponents and use them as weapons, but we couldn't find any real point to the body-parts-as-weapons concept (beyond simple style).

Rune suffers from having many more levels than it has plot to support. The result is a sense of drift—you'll lose track of what precisely Ragnar is trying to achieve (beyond chopping his way through the inevitable armies of the undead, dwarves, crabs, giant coral polyps, and the rest). The game also has a few too many cut scenes that convey important plot points, such as "I'm tired of toying with you, Ragnar!" and "Human smell bad! Crush human!"

That said, the game becomes more compelling as it goes along. Once you suffer through the incredibly tedious underworld, the game tightens up dramatically—and develops a fine sense of humor we wish it had displayed earlier on (we particularly liked the hilariously overblown machines of the dwarves). Rune's generally well executed puzzles give players a sense of accomplishment that the almost uniformly mediocre battles lack.

Ragnar smash!
Ragnar smash again!
Ragnar bored.

The game is based on a modified Unreal Tournament engine—but we can't say much for the modifications. The game felt significantly more sluggish than Unreal Tournament does on the same hardware. Worse, Unreal Tournament is really a shooter, not a swordplay game—so if you're expecting the complex parry-and-cut features some swordplay-based games provide, you're in for a disappointment. You have exactly one attack button (apart from the ability to throw a weapon), so combat is nothing more than advance-slice-retreat, repeated about 200 times per level. Collecting runes, glowing relics scattered throughout the dungeon, lets you use a special attack that varies from weapon to weapon—but runes are available infrequently enough so that you don't often get to do more than bash and slash. The game engine also includes a ghastly fog effect that results in giant cliffs appearing or disappearing at surprisingly close range.

The multiplayer game is particularly uninspired—it's a throwback to the days when deathmatches were the be-all and end-all of multiplayer gaming. Some of the multiplayer maps are even of the awful arena-of-death format we'd hoped never to see again.

Rune left us with extremely mixed emotions. On the one hand, we often found it a tedious game, with far too little plot stretched across far too many levels. On the other hand, we can't really complain about a game that delivered



several days worth of gameplay without any serious crashes or instability. In the end, the game is more or less a tossup—if you're a diehard fan of the third-person shooter, it might be worth a look.

—Ian Sammis

good news: Long game. Clever puzzles. **bad news:** Not enough of a plot to sustain game. Lack of ranged weapons gets tedious quickly.

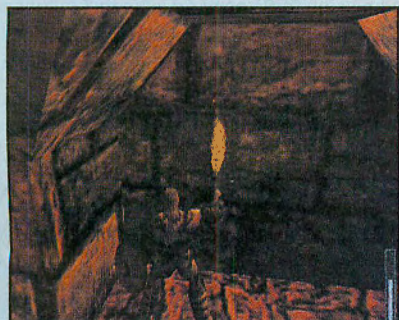


Things That Make Us Go "Huh?"

- Ragnar can sometimes survive standing on red-hot lava, without sustaining any damage unless he moves.
- Ragnar often carries a different weapon in a cut scene than he wielded a split second earlier.
- Underwater murk (stuff hidden by distance) is significantly brighter than the surrounding water or landscape.
- After killing one enemy, we were treated to a cut scene that repeated the death—with Ragnar wielding a different weapon and standing several feet from where he stood during gameplay. Worse, the location was crucial to the plot!



A wildly flaming sword doesn't shed any light onto this dark corner (above), but a run-of-the-mill torch (below) does...go figure.



Fifteen Weapons for the Stylish Viking

Rune's weapon selection seems larger than it is. Since every last one is a melee weapon, the differences among them aren't profound. Here's the full line up.

SWORDS



VIKING SHORT SWORD

Rune Power: Shield (creates a magical shield)



ROMAN SWORD

Power: Flaming Sword (bursts into flames)



VIKING BROAD SWORD

Power: Vampire Attack (gives opponent's health to you)



DWARVEN WORK SWORD

Power: Lightning (damages multiple opponents)



DWARVEN BATTLE SWORD

Power: Avalanche (causes large boulders to roll outward)

BLUNT WEAPONS



RUSTY MACE

Rune Power: Blast (a ripple of damage moves out from Ragnar)



BONE MACE

Power: Sonic Blast (makes close-range attack upon enemies)



TRIAL PIT MACE

Power: Blaze (spreads a circle of flames during attacks)



DWARVEN WORK HAMMER

Power: Earth Attack (throws rocks outward, causing damage)



DWARVEN BATTLE HAMMER

Power: Stone (turns opponents into stone)

AXES



HAND AXE

Rune Power: Spirit (increases the amount of damage per hit)



GOBLIN AXE

Power: Unlimited Throw (causes axe to fly forward on each swing)



VIKING AXE

Power: Ally (makes first monster you hit join your side)



SIGURD'S AXE

Power: Freeze (freezes opponents you attack)



DWARVEN BATTLE AXE

Power: Super Damage (does exactly what it sounds like)

SimTheme Park

fun & games

Company: Electronic Arts and Aspyr

Price: \$34.95 (SRP)

Contact: 888-212-7797 or 512-708-8100, www.aspyr.com

Requirements: G3 or later processor, 266MHz or faster (333MHz recommended), Mac OS 8.5 or later, 64MB of RAM (128MB recommended), 150MB of free hard disk space, 6MB of VRAM (16MB recommended), 4X CD-ROM



Find a demo of SimTheme Park on The Disc.

Ever since Aspyr released *The Sims* last summer, simulation titles have attained a new level of respect in the *MacAddict* offices. While the latest addition to the sim family of games is not nearly the time- and productivity-sucking staff diversion *The Sims* was, it's still a pretty fun game that will have you telling yourself (or your loved one or your boss) "just five more minutes" for quite a few hours.

In *SimTheme Park* you are responsible for building and running your own amusement park. Your objective is to make money and keep your patrons and staff happy. This means you need to build rides to draw crowds; construct shops, eateries, and side shows to make money; hire



When you're building your virtual coaster, the laws of physics don't really matter.



You'll be hiring staff, including entertainers, for your park. Here we're considering the resume of Steve Jobs.

janitors, mechanics, and other staff to keep the joint running; and install bathrooms for the obvious reasons (and no, you don't get to see your *Sims* characters pee this time). It's also important to hire a solid team of researchers to develop new rides, shops, and attractions so your park can keep growing.

The best part about the game is planning where to situate all of your rides and attractions to optimize your business, as well as watching for new inventions developed by your research team. For instance, when you start the game, you're limited to placing preconstructed rides like simple roller coasters and spinning rides. Eventually, you'll work toward building heart-stoppers, such as advanced roller coasters or log flumes you can customize to incorporate loops, spirals, and near-vertical drops of your own creation.

SimTheme Park has four parks in total—two are accessible immediately, but you must earn keys to gain access to the others (you win keys by running a park successfully). Although the game sounds complex to learn, it's actually not—you'll get the hang of it pretty quickly. Once you learn the secret to making tons of money, the game actually starts to feel repetitive. Even when you earn enough keys to open up a new park, the experience is redundant—the rides and shops look different on the outside, but they are essentially the same. And as an aside, someone might want to tell the makers of *SimTheme Park* about the Equal Rights Amendment, as you don't have the option to hire any female workers.

Another problem with the game is that using the controls sometimes feels fussier than feeding a baby strained peas. For instance, trying to place your roller coaster track can prove extremely frustrating—the controls sometimes won't let you complete the track you're building. However, the



Water rides are extremely popular with the kiddies.



Rides break down on a regular basis, so you need to send out a mechanic to fix them.

controls are the golden child compared to the game itself, which had problems running on our G3 333MHz PowerBook with 128MB RAM and virtual memory turned on. Even when consuming more than 100,000K of memory and feasting on its very own set of extensions, the game kept crashing and crashing—very much *unlike* the Energizer bunny.

Problems aside, the game is still fundamentally clever and fun. You even get to ride your rides once you build them (although this sounds cooler than it is). Considering that the one-day price of admission to Disneyland is up to \$43 these days, the pleasure you derive from playing *SimTheme Park* (and the absence of smelly kids trying to cut in front of you in line), more than justifies the \$35 price tag.

—Cathy Lu

good news: Good, clean fun. A creative experience. A game for the whole family. **bad news:** High system requirements. Game still crashes. Repetitive gameplay.



spiffy

An ounce of prevention goes a long way.



Internet Security Barrier. The must-have Internet Security Pack for your Mac.



Coming soon
to Mac OS X

Internet Security Barrier 1.0

Intego presents the complete Internet Security Pack for your Mac. Easy to install, easy to use, and always up-to-date, thanks to NetUpdate, which ensures automatic or manual updates over the Internet. Internet Security Barrier contains:

NetBarrier 2.0

NetBarrier's personal firewall monitors incoming and outgoing data, blocking all vandal attacks and attempts to break into your Mac for full protection. A customized mode allows you to create your own defense rules. It analyzes data leaving your computer and prevents unauthorized exporting of private data. It helps maintain your privacy, giving you control over cookies, blocking ad banners, and blocking spam before you download it. It also helps cover your tracks, by refusing to give out certain personal data.

VirusBarrier 1.5

VirusBarrier protects your Mac from all known viruses, including Word and Excel macro viruses. It checks files you receive by e-mail, download from the Internet or copy from CD-Roms or other media. Its turbo mode makes virus scanning lightning fast.

ContentBarrier 1.0

ContentBarrier sets up a protective wall around your computer. Its pre-defined categories let you choose what you don't want your children to see, and you can also create your own custom categories. Inappropriate web sites are blocked, shielding your children from things they are too young for. ContentBarrier blocks adult web sites, sites with subjects not fit for children, and even blocks chats when predatory language is used. It blocks all offensive content coming from the Internet.

Intego SKU: ISB1-SU
Ingram SKU: 559419

Licences available
5, 10, 20+

www.intego.com



Resellers

Apple Store
800-692-7753
www.apple.com
Buy.com
888-888-1030
www.buy.com
CDW
800-850-4239
www.cdw.com

Club Mac
800-217-9153
www.clubmac.com
CompUSA
800-266-7872
www.compusera.com
Computer Stores NW
541-754-8441
www.csnw.com

Computer Town
800-666-0004
www.computertown.com
ComputerWare
800-725-4622
www.macsource.com
Dartek
888-432-7835
www.dartek.com

Datavision
888-888-2087
www.datavis.com
Developer Depot
800-622-3381
www.devdepot.com
J&R
800-221-8180
www.jandr.com

Mac Connection
888-213-0260
www.macconnection.com
MacMall
800-328-2790
www.macmall.com
MacWarehouse
800-397-8508
www.macwarehouse.com

MacZone
800-454-3686
www.maczone.com
Micro Center
800-207-3434
www.microcenter.com
Outpost.com
877-688-7678
www.outpost.com

IDL 5.4

productivity

Company: Research Systems

Contact: 303-786-9900, www.rsinc.com

Price: \$2,000 (SRP), \$500 (academic price)

Requirements: PowerPC, Mac OS 8.5 or later, 64MB of RAM, 150MB of free hard disk space

IDL (Interactive Data Language) is a high-powered tool for manipulation and visualization of images and data. Although primarily used by physical scientists, engineers, and medical imaging professionals, IDL offers impressive plotting capabilities and visual representations of one-, two-, and even three-dimensional data, useful for numerical analysis in a wide range of disciplines.

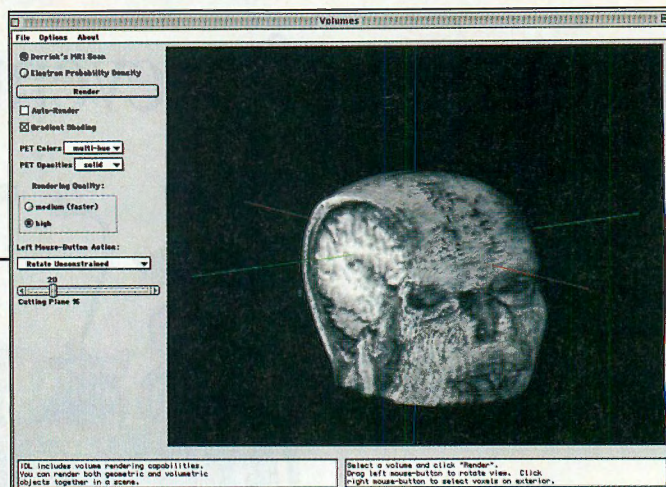
IDL's claim to fame lies in its extraordinary image-processing abilities, and we're not talking about Photoshop-style effects like Gaussian Blur and Unsharp Mask (although it certainly can do similar things). With IDL, an architect could automatically locate all the bridges in an

image of New York City, or an astronomer could pick out distant galaxies from a telescope image for further study.

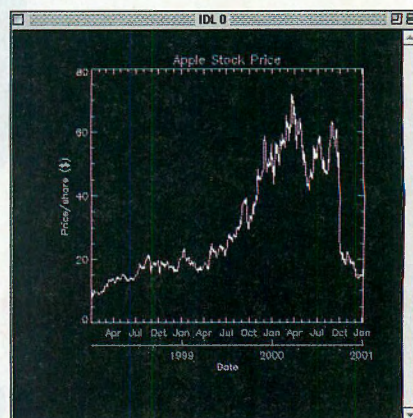
IDL's other strengths are signal processing (for example, understanding the effects of AirPort networks on sound quality in cell phones) and mapping (for example, drawing a world map with colors representing population density and contours representing elevation). IDL also has interesting time-series analysis capabilities. It took us just a few minutes to analyze Microsoft and Apple stock prices (the results: Microsoft just keeps going up, while Apple stays up or down for about two years, then moves unpredictably).

Unlike many other scientific applications, IDL does not port the Mac version from another platform. It is a native Mac application, complete with Velocity Engine enhancement and good AppleScript support. And IDL engineers are hard at work porting it to Mac OS X.

Though IDL is primarily a command line language, it has a number of graphical user interface (GUI) tools. Especially nice are the file import functions, which allow you to retrieve data quickly from custom file formats and text files. Unfortunately, some of IDL's interactive tools are missing key features. In a plot window, for example, you cannot rescale or label the axes or change colors and other plot characteristics. You must accomplish such tweaks from the command line. Other GUI tools have similarly frustrating limitations. Printing is a major IDL bugaboo. One way to work around this limitation is to send output to a PostScript file first, then print the file. Third-party libraries solve some of these quirks. In particular, Fanning Consulting's *Coyote's Guide to IDL Programming* (www.dfanning.com) has a must-see library for anyone who wishes to avoid spending a stint in an asylum.



IDL's powerful visualization tools allow you to view 3D data sets, such as this MRI scan of the author's brain.



Read it and weep—IDL can generate the x-axis dates on this stock plot. Unfortunately, it can't give you better numbers.

IDL also suffers from innumerable small bugs (such as misinterpreted mouse clicks) and user interface quirks (an occasionally disappearing command line window) along with a few major bugs (occasional system crashes). Finally, IDL does not play nice with other Mac apps during long operations, offering a few too many coffee break opportunities if you're working on a slow machine. The Mac OS X version will fix many of these problems, but for now the combination of all these minor matters significantly degrades the user experience, bringing this otherwise spectacularly feature-rich program down a notch.

—Derrick Bass

good news: Good Mac support. Outstanding image manipulation. AppleScript support. Good online help. Velocity Engine enhanced.

bad news: Interface glitches and minor bugs. Does not multitask. Expensive.



Rewind

utilities

Company: Power On Software

Contact: 800-344-9160 or 614-413-4000,

www.poweronsoftware.com

Price: \$99.95 (SRP)

Requirements: PowerPC or faster, Mac OS 8.1 or later, HFS+ formatted drive, 1GB hard drive, 5 percent of your drive's disk space

If we had a dollar for each time we mistakenly deleted a document or saved over an older version, we would have raised enough funds to buy Power On Software's Rewind. Rewind can store almost anything—from a snapshot of a single file to a copy of your entire system.

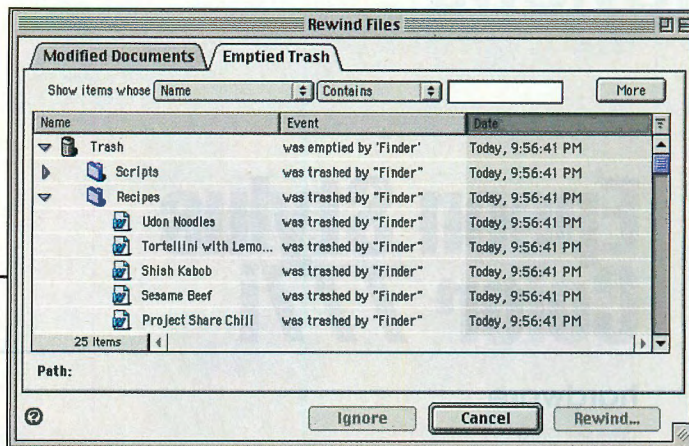
Rewind not only stores copies of deleted files on your hard drive, it also stores earlier versions of saved files. Recovering an archived file is easy: Just select it and press

When Undo just won't do, Rewind makes restoring deleted files easy.

the Rewind button. The program records your system's history as a series of events (such as system startups and application launches), and can rewind your system to any one of these events.

The search features let you find stored files by name, date, or type of event; however, the program ignores all items in subfolders. Rewind creates a bootable virtual disk of your System Folder as well as any diagnostic programs it finds. At the touch of a key, you can boot your Mac from this emergency disk.

Rewind has one major caveat: It requires 5 percent of your hard disk to run smoothly.



Running out of space can leave you dealing with system crashes and program errors. Version 1.1 should alleviate this problem.

If you often run into a situation where you need to recover files, Rewind is definitely worth a look. Just remember to give it enough breathing room on your hard drive.

—Mark Shuchat-Marx

good news: Easy restoration of deleted or old files and damaged systems. Boots system without a separate disk. Searches for deleted items.

bad news: Search function won't look for items in subfolders.



Monopoly

fun & games

Company: MacSoft, a division of Infogrames

Price: \$29.99 (SRP)

Contact: 800-229-2714 or 763-249-7600,

www.wizworks.com/macsoft

Requirements: 225MHz or faster Mac (G3 or faster recommended), Mac OS 8.1 or later, 64MB of RAM, 240MB of free hard disk space, CD-ROM

Besides winning, the most appealing aspects of playing the board game Monopoly are sensory—fingering that shiny silver game piece, hearing the click-clack of dice on the board, organizing your money into neat little monopolistic piles. Of course, it's not until you play Monopoly on the Mac that you truly appreciate these tangible pleasures.

To MacSoft's credit, there's little wrong with the computer adaptation of the game. Monopoly lets you play against up to six human or computer players and on 11 different boards, including the San Francisco, New York, and classic designs.

Busted! It's off to jail for our little Scottie dog.

We found the graphics quite impressive—especially the game pieces, which actually looked metallic and featured a lot of detail. The game also ran very smoothly on our 333MHz G3 PowerBook and crashed not even once.

Unfortunately, the game just doesn't translate well to the computer. It's simply a bore to watch pieces move about the screen, click the Roll Dice button, and listen to the same tired commentary (imagine hearing "You're up, doggie" every single time it's your turn).



One minor bug we came across when we played on the San Francisco board was that the Community Chest and Chance cards still featured locations from the classic board. It's a small annoyance, and probably one that won't even bother you amid the ennui that will already have settled in.—Cathy Lu

good news: Pretty graphics. Nicely rendered game pieces.
bad news: Sort of a snoozer.



Epson Stylus Color 777i

hardware

Company: Epson

Contact: 800-463-7766 or 562-981-3840, www.epson.com

Price: \$99.99 (SRP)

Requirements: PowerPC, Mac OS 8.5.1 or later, 32MB of RAM, 50MB of free hard disk space, USB port, CD-ROM

Epson's 777i is a compact, low-cost inkjet printer that offers outstanding and economical print quality, both in black and white and in color. If this model looks familiar, it should. It's actually a rerelease of an earlier model, the 777, with a snazzy new color combo—ice and blue—to better coordinate with your Mac.

The 777i's image quality is impressive—easily as good as that of more expensive Epson color printers. This particular printer

renders images in four-color CMYK at resolutions as high as 2,880 by 720 dpi and uses 4-picoliter ink drops for razor-sharp details (the smaller ink drops offer more detail).

To put the 777i's color abilities to the test, we printed several color photographs on Epson glossy photo paper. The images came from high-resolution Kodak Photo CDs digitized from 35mm camera negatives. We printed the pictures at 360 by 360 dpi without touching up the digital files in an image editor. In a side-by-side comparison, the Epson printed image was nearly identical to the original photograph. Although the output was outstanding, it couldn't quite match the quality of some

photographs in very dark or detailed areas. The quality of our results also depended on the type of paper we used. While prints on photo paper closely resembled the originals, prints on standard copier paper looked like 15th-generation photocopies.

Black-and-white printing is standard for most print jobs, and the 777i easily met our expectations. With the highest-quality print settings in Epson's print driver, text came out very sharp at both large and small point sizes. Fine detail in script fonts also printed cleanly. However, in draft modes (designed to print faster), text appeared noticeably less sharp and the edges of letters became somewhat blurry. Aside from text, the 777i handled black-and-white

If you're looking for excellent color reproduction at a low price, the Epson Stylus Color 777i delivers.

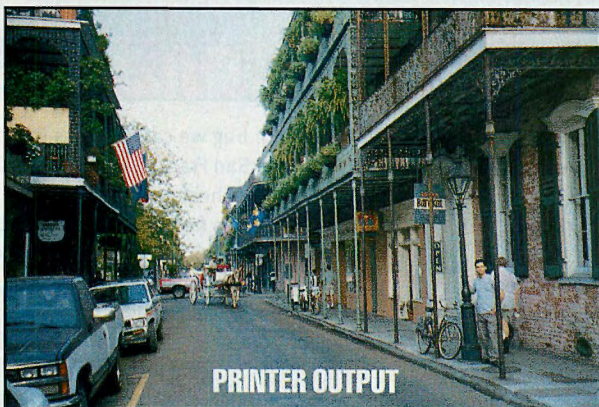
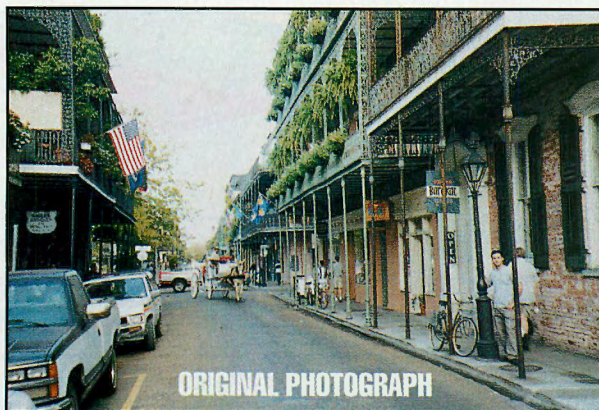
photos well when we printed them on Epson photo paper. The printer gave us a good range of grays and shadows.

Inexpensive printers usually have a low print speed, but that wasn't the case with the 777i. For all text pages, output was about 8 pages per minute. Single full-color pages took from 45 seconds to 9 minutes to print, depending on the complexity of images and graphics.

By now you are probably saying to yourself: low price, good print quality—what's the catch? Well, there are several. The biggest one is that the print cartridges the 777i uses are relatively expensive compared to other cartridges, costing \$22.45 to \$25 for color and \$26.95 to \$29 for black and white. To add insult to injury, you can't refill these cartridges, so you have to buy all-new ones when they run out of ink.

The next two problems are nitpicky but still bothersome. First, the 777i was initially the noisiest inkjet printer we've ever used. The specifications sheet lists the sound level at a reasonable 47 decibels, but the unit we used sounded like it was milling the paper. However, the noise eventually died down. Second, Epson used low-quality plastics to build the 777i. This printer looks and feels flimsy compared to the sturdier design of the original 777.

If you're looking to buy a color printer with great output at a rock-bottom price, the Epson Stylus Color 777i is an excellent choice. Just keep in mind that the overall long-term cost of using the Epson Stylus 777i with its high-cost ink cartridges will likely exceed that of a more expensive photo printer.—Rick Sanchez



See for yourself. On Epson photo paper, the 777i's output is nearly identical in quality to the original photograph.



PHOTOGRAPH BY AARON LAUER

good news: Excellent print quality. Low price. Compact design.
bad news: Intermittent noise. Pricey print cartridges. Flimsy material.



Omnis Studio 3.0

productivity

Company: Raining Data

Contact: 800-367-7425 or 949-442-4400,

www.rainingdata.com

Price: \$149 Standard Edition, \$479 Enterprise Edition,

\$1,179 Web Edition

Requirements: G3 PowerPC or faster, Mac OS 8.6 or later, 32MB of RAM (64MB recommended), 60MB of free hard disk space

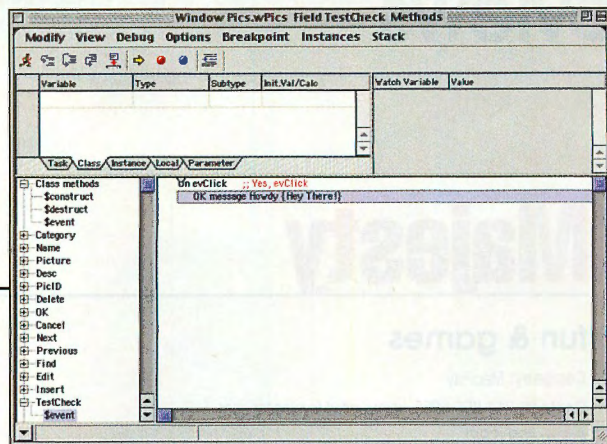
Omnis Studio is one of the oldest Macintosh database tools, first ported to the Mac in 1987. Over the years, it has developed into a blisteringly complex application development environment that offers tremendous power at a relatively low cost.

Don't be confused by the RAD (rapid application development) moniker. Omnis "applications" can sport interfaces as intricate as those you created in a compiler-

This window is one of a myriad you'll encounter when designing an Omnis application.

based RAD, they can access databases (with the Enterprise Edition), and they can even create complex database-driven Web sites (with the Web Edition). However, Omnis-based apps are simply files. To distribute them, you need a run-time application licensed at cost from Raining Data.

Omnis was designed long before the now-fashionable idea that databases should be easy to create. Its interface is one of the most confusing we've seen—each window has its own menu bar, every interface element has dozens of properties, and each component you add sprouts its own windows for configuration.



Although the interface makes the learning curve more of a learning cliff, it's worth climbing if you need to deploy a database-based application across an entire corporation, interface with professional databases, or build a complex Web-based front end to your database. For smaller jobs, stick to REALbasic.

—lan Sammis

good news: Powerful database application builder.

bad news: Steep learning curve. Requires run-time apps. Complex interface.

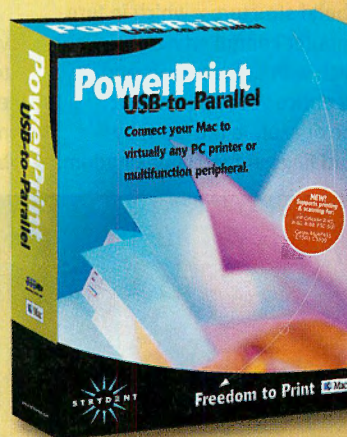


Can't Print



The Solution...

Print from your Mac to over 1600 popular printers



PowerPrint

For more information or to purchase PowerPrint:
Call 888-428-2630 or visit www.strydent.com/powerprint



Majesty

fun & games

Company: MacPlay

Contact: 214-855-5955, www.uniteddevelopers.com

Price: \$39 (SRP)

Requirements: Power Macintosh 180MHz or faster (G3 or faster recommended), 64MB of RAM (128MB recommended), 2MB of VRAM, 300MB of free hard disk space (450MB recommended), 800 by 600 or higher screen resolution, 4X CD-ROM

The rebirth of MacPlay is a joyous event. United Developers acquired the long-beloved label and is pulling out all the stops to return it to its former glory. With Majesty, the MacPlay brand certainly maintains its tradition of excellence, although the game's style of play is not for everybody.

Majesty casts you in the role of a young sovereign who has just inherited the throne of the faraway fantasy kingdom of Arдания. You are charged with completing 19 quests to rid your land of evil and secure your right to rule. The game is a curious cross between city-building simulation and real-time strategy. As in a real-time strategy game, you must create a settlement and raise an army. As in city-building, you have no direct control over the world you create and must react to the needs of your simulated subjects while urging them to do your bidding.

Gameplay seems fairly straightforward at first: You build structures, which in turn produce computer-controlled heroes—your subjects—each with unique goals and abilities. You entice your heroes to act (destroy a foe or explore the land) by placing reward flags around your kingdom.

The flags, which represent a heroic quest, confer gold on the hero who collects them. This method of indirectly controlling your units, while a novel approach, may frustrate some players. Thankfully, magical guilds offer spells for your use. Some spells heal your forces and others attack your foes, but none of them come cheap.

Each hero thinks for itself—creating complex interactions between the characters, monsters, and other game elements. Some monsters are friendly, while others attack anything in sight. Many kinds of heroes, not all of them human, populate your realm, each with vastly different abilities. The secret to success in Majesty lies in learning these largely undocumented interactions and using them to your benefit.

The detailed game world is depicted in vivid color using prerendered sprite technology (2D-plus) that creates faux 3D effects. The good news is that you don't need a monster 3D card to enjoy them; the bad news is that 3D cards won't help, and the beautiful graphics may tax older processors. You also can't rotate your view of the kingdom, which often makes it impossible to employ direct spells against foes hiding behind a building's north face.

Once you tire of the 19 supplied quests, you can play online, either cooperatively or competitively, with up to three others via the free GameRanger service (www.gameranger.com).



The prerendered graphics are truly eye catching—pity your fancy graphics cards won't make any difference.

The read-me file promises the availability of downloadable quests, but we found only PC versions. United Developers says it's working with Cyberlore (the developer of the game) on a Mac conversion; however, nothing was definite at press time.

Majesty is a unique game that blends two genres fairly successfully. While this approach won't appeal to everyone, those patient enough to learn the game's intricacies will find the experience fit for a king.—*Rich Pizor*

good news: Gorgeous graphics with no 3D requirements. Unique gameplay.
bad news: Lack of control may frustrate power gamers. 3D accelerators won't help.



Here's hoping your warriors feel like fighting—once your gold runs out, you can't attack these goblins directly.

What's in a Name?

If you have a few years of gaming under your belt, you should remember MacPlay, Interplay's lengthy flirtation with the Mac market. For a number of years, MacPlay titles represented the cream of the crop in the Mac gaming universe. Sadly, Interplay chose to discontinue its Mac development efforts in 1997, and the MacPlay label lay dormant for some time. Late last year, United Developers acquired the rights to the name MacPlay, and will be releasing its future Macintosh titles as MacPlay games, thus keeping the legend alive. Of course, Cyberlore actually created Majesty—the company programmed the Mac version as well.

T3: Tomorrow's Technology Today... try the premiere issue

FREE!

T3 is the premiere hi-tech, hi-style magazine for those passionate about the digital lifestyle.

- Each issue is filled with unrivaled coverage of the fast-moving world of consumer electronics
- Blending cutting-edge design and showcase-style photography
- Exclusive news, authoritative reviews and first-class features on all the latest technology



Take advantage of this special offer **NOW**
and **be the first** to know about the latest,
greatest and sexiest **consumer electronics**.

CALL

877-817-4397

TO RECEIVE YOUR FREE ISSUE AT NO RISK!

If you're pleased with what you see, we'll send you 11 more
(12 in all) for only \$14.95. *That's a 75% savings off the newsstand rate.*

Offer good in U.S. only. Cover price is \$4.99. Canada: U.S. \$26. Foreign: U.S. \$39.
Prepaid in U.S. funds only. Please allow 6-8 weeks for delivery of first issue.

powerplay

If you're facing a tough boss monster, call us. If you're drunk and in jail, don't.

Mommy, Where Do Games Come From?

An Interview with Mark Adams
of Westlake Interactive



Find a copy of
Naumachia
on the disk.

If there's a single company banner Mac gamers like to see when they fire up a port of a PC game, it's Westlake Interactive. Over the last few years, Westlake Interactive has built a strong reputation as the company Mac publishers turn to first when they want a game ported solidly and well. We spoke with Mark Adams, the president of Westlake Interactive, about the current state of the Macintosh gaming world. Here's what he had to say.

MacAddict: How did Westlake Interactive form?

Adams: Back in 1997, Lion Entertainment (the only major Mac porting company at the time) had just closed its doors. I got together with two programmers, Phil Sulak and Ken Cobb, and my wife Suellen Adams (who had extensive business experience), and launched Westlake Interactive. The Mac's popularity was at a low ebb, so a lot of folks wondered if we were being sensible, but things have gone really well. Over the last three years we've ported 30 games—14 of them in the last year!

MacAddict: Is anything exciting coming in the near future?

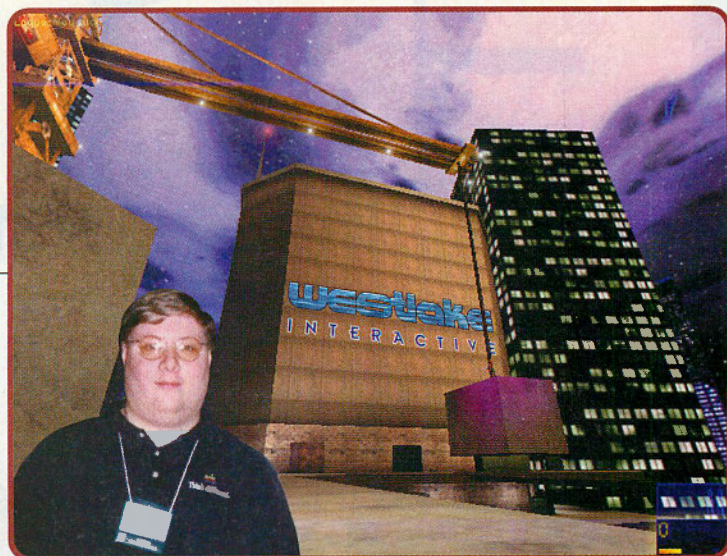
Adams: The two ports we've announced are Tony Hawk Pro Skater 2 and Tomb Raider Chronicles. I didn't know much about Tony Hawk when I first saw it, but once I started playing I was hooked—it's an easy game to get into and great fun to play. The game was a big hit on the PC side, and should do well on the Mac.

I'm looking forward to Tomb Raider Chronicles, since I'll be working on the port myself. I've always had a soft spot for the Tomb Raider series, and Tomb Raider Chronicles has more of the same type of gameplay. Of course, that's also the usual criticism of the series, but a diehard cadre of Lara Croft fans out there keeps snapping up each new game we do.

MacAddict: How does the process of porting a game work?

Adams: The start varies. Often a Mac game publisher (usually Aspyr or MacSoft) comes to us having just bought the rights to publish a Mac version of a PC game. Sometimes it comes from the other end—a PC game publisher wants a Mac version of a game that's done well for them. Occasionally, we'll approach Aspyr or MacSoft and ask them to acquire the rights to a game we really want to port.

Once the publisher gets rights to a game, they'll give us the source code (the actual C or C++ program) for the game. We then translate the code to create a Macintosh version of the same game by replacing networking code and graphics code, adding Mac-specific features, and so forth. The process can take anywhere from three months to a year. Once we're done, we



PHOTOGRAPH BY SUELLEN ADAMS

Mark Adams has the most realistic Unreal Tournament model ever.

deliver the game back to the publisher, which then handles marketing and distribution.

MacAddict: What's the most technically challenging part of porting?

Adams: Networking. Getting the networking code working is always the nastiest part of porting a game—it's difficult to port and really, really hard to debug. We're always quite happy when we get a game like The Sims or Tomb Raider that doesn't have any networking code. Games like that always take substantially less time to port.

MacAddict: What do you think of Apple's decision two years ago to focus on OpenGL?

Adams: The decision went really well, and we think it was the right [one]. Apple's OpenGL implementation seems to be stable and performs pretty well. Version 1.2 (bundled with Mac OS 9.1) has performed really well in our testing.

From our standpoint, we like OpenGL as the main 3D layer because it's an open standard. If a PC game uses OpenGL for its 3D graphics, porting it becomes very easy.

MacAddict: Mac OS X is right around the corner. How is it looking from the perspective of game development?

Adams: Once Mac OS X is out, stable, and widely adopted, it'll be a great thing for gamers. The problem is that the transition is likely to be a bit rough—we'll be hedging our bets and waiting until Apple finishes the final pieces.

We need five things for gaming: a good OpenGL implementation, a good file system, a way of handling sound effects, a way of managing screen resolutions, and a system for handling input devices like mice, keyboards, and joysticks. The OpenGL implementation is looking good, the file system is actually much better than OS 9's, and the sound code seems to be working fairly well, so Apple's got three out of five. Unfortunately, we're still missing equivalents to DrawSprocket (the interface that lets programs change screen resolutions on the fly) and InputSprocket (the interface that gets input from joysticks, mice, and keyboards).



It's not often that you meet someone with antlers who *isn't* looking for a good time—especially someone with a big, sharp sword.

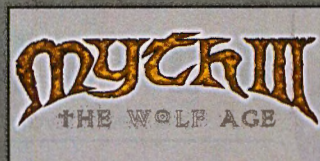
Myth III: The Prequel Age

You Can't Keep a Good Evil Down

After some nameless evil swallowed Bungie last year, the chances of seeing another Myth game seemed remote at best. But you could have said the same of Soulblighter's chances at world domination, and look how close *he* came. Game developer Mumbo Jumbo with some help from game publisher (Gathering of Developers) has come through, at least with an announcement. Myth III: The Wolf Age, scheduled for release in November 2001, will be palatable to Mac OS 9, Mac OS X, and Windows.

Instead of continuing where Myth II: Soulblighter left off, Myth III is a prequel. The game, set 1,000 years before Myth: The Fallen Lords, follows the adventures of Connacht as he deals with the fun-loving and bloodthirsty Myrkridia and Trow races.

The prospect of another installment in the Myth series should excite longtime Myth fans, and Bungie cofounder Alex Seropian has given the effort a thumbs-up. We sure can't wait!—DR



Tactics in Spaaace

Naumachia Brings Turn-Based Tactics Off World

Before the advent of computer games, geeks who loved strategy and tactics had to simulate their battles using paper, pencils, dice, and many, many hours. The microprocessor brought us a better way, at the expense of those analog gaming devices. Even though the medium may have changed, the games have survived, as Naumachia evidences.



Showing the enemy your engine's exhaust ports is a tactical mistake, as you'll quickly discover when playing Naumachia.

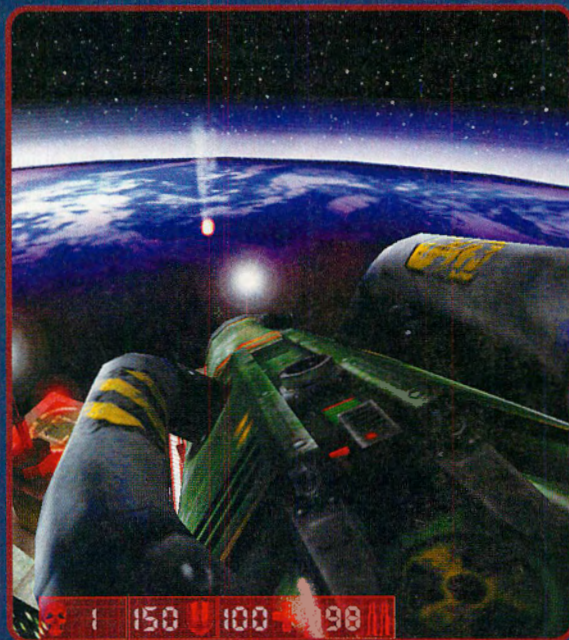
In this turn-based tactics game, you play a fighter pilot who flies for the righteous and glorious Corporation. Your job is to put down a rebellion by the Core Planets, using your spacecraft to mete out justice. The game has a strong role-playing aspect, as you get paid for completing battle missions and use that money to add upgrades to your spaceship.

In the strictly two-dimensional Combat, you struggle to outmaneuver the enemy without getting caught in the sights of some unfriendly force's guns. In some battles, allies help in your mission to eradicate the rebellious scum.

If real-time tactical games put you off and you'd like to try your hand at a more thoughtful version, give Naumachia a try. When you pay the \$15 shareware fee, you can use the mission editor and use external maps created for Naumachia. System requirements are pretty modest (a Power Mac with 15MB of RAM; 8MB of free hard disk space; a 256-color, 640 by 480 monitor; and DrawSprocket 1.7 or later).—DR

Screenshot of the Month

It's an unmitigated joy to open our email box every morning to find a shiny new image inside. If you'd like to make our day, send your best screenshot to letters@macaddict.com with your artist's statement.



Artist's Statement:

Bye-bye, Earth!—Miguel J. Paley

how to

A month without solder while we recover our wits.

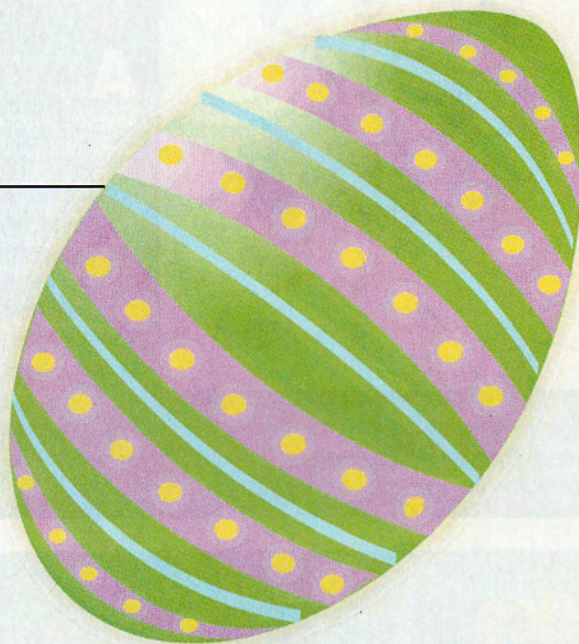
Draw a 12-Step Egg

by Narasu Rebbapragada

WHAT YOU'LL NEED

- Adobe Illustrator 9 (\$399, www.adobe.com) or a similar vector-based drawing program

Happy Easter! Time to decorate your cards, cribs, and candy baskets with shiny, happy pictures of Easter eggs. All you creative do-it-yourselfers—we know canned Easter graphics just aren't for you. Rather than relegate yourself to old, dusty volumes of schlocky clip art, why don't you just draw your very own 3D image of an Easter egg? All you need is Adobe Illustrator 9 (or a similar vector drawing application), a dash of creativity, and some patience. While you can apply the concepts here to any vector graphics program, the last two steps involve styles and features found only in Illustrator 9—so Freehand-wielders will have to work out their own solutions.

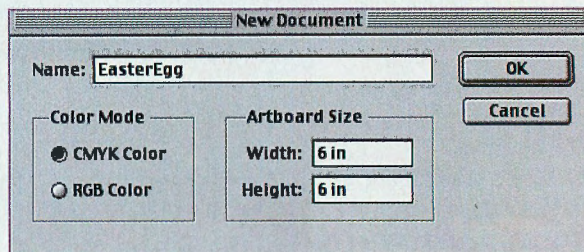


An Easter illustration fit for Edie the egg lady.

LAY A BASIC EGG

1 Set Up Your Document

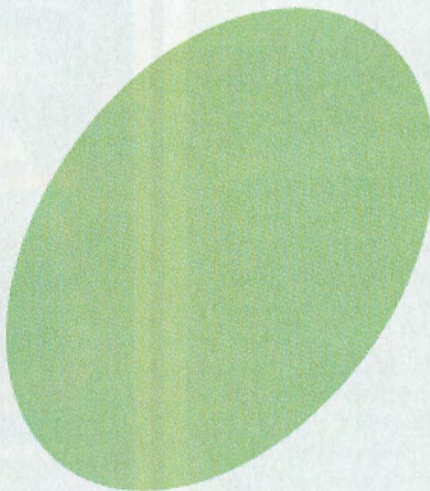
Open a new document in Illustrator. Set the Artboard Size to 6 inches by 6 inches and click OK. (If the units of your Artboard appear in anything but inches, choose Units & Undo from the Preferences submenu of the Edit menu. In the dialog box that appears, select inches for General Units.)



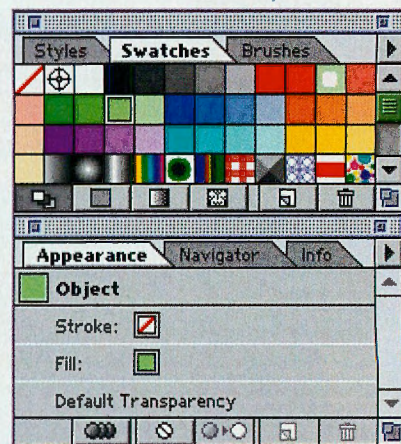
Set the size of your Artboard in this dialog box.

2 Create the Basic Shape

Select the ellipse tool (the oval) from Illustrator's toolbox and draw an oval shape like the one shown here. If you don't already see the Swatches palette, choose Show Swatches from the Window menu. To select a fill color for your burgeoning egg, drag swatches from the Swatches palette to the box that appears next to the words Fill Color in the Appearance palette (we chose a lovely mint green). Set the stroke color (the color that fills the oval) to None by dragging the swatch with a red line across it to the box next to the words Stroke Color. Choose the rotate tool (the dotted circle with an arrowhead at the top), then rotate the oval to approximate the angle shown here.

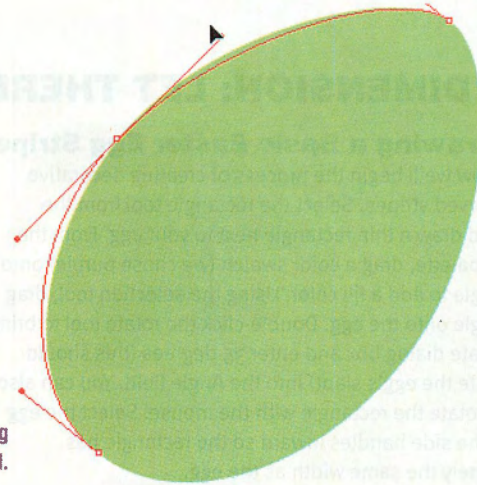


Time to ovalate.



3 Make Your Egg More Egglike

The oval isn't quite egg shaped yet. To accomplish that, click somewhere away from the oval to deselect it, then choose the direct selection tool (the white arrow) from the toolbox and drag over the top portion of the oval. You should now see the shape as a series of points with Bézier (curve) handles. Drag the left and right Bézier handles slightly inward and the top anchor point slightly upward to taper and elongate the shape.

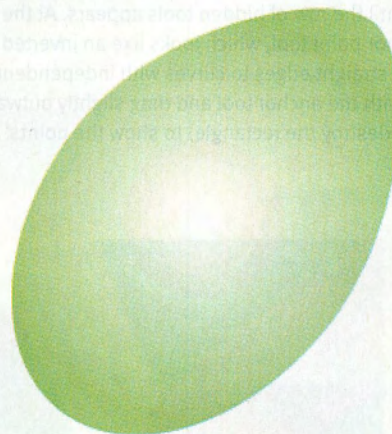


The basic shape of an Easter egg is simply a slightly tweaked oval.

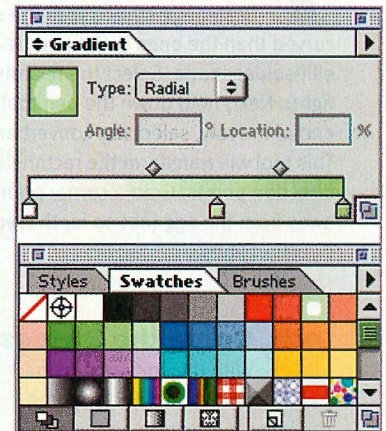
ADD DIMENSION: LET THERE BE LIGHT

4 Create a Gradient

To begin creating a 3D object, we'll add a gradient to our egg object. If you don't already see the Gradient palette, choose Show Gradient from the Window menu, then click the Gradient button at the bottom of the toolbox. Don't worry if your egg loses color—just drag the fill color from the Swatches palette onto the right-most square below the gradient bar. Then select the white swatch from the Swatches palette and drag it to the left-most square below the gradient bar. In the Gradient palette, change the gradient type to Radial (if you don't see this option, click the black triangle at the top-right corner of the Gradient palette and choose Show Options). To create a more sophisticated gradient, add an intermediate color. In the Swatches palette, choose a slightly lighter color than your fill color. Drag the color swatch to the gradient bar to create a third square. Getting the gradient just right will take some trial and error, so make sure to save your work at this point.

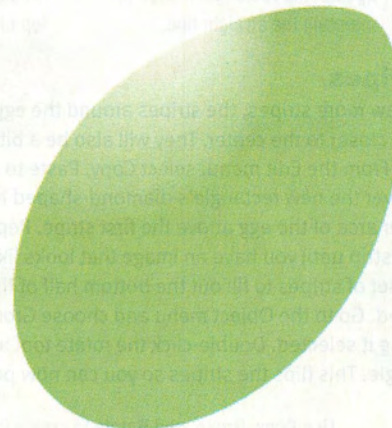


Gradients create the illusion of light.

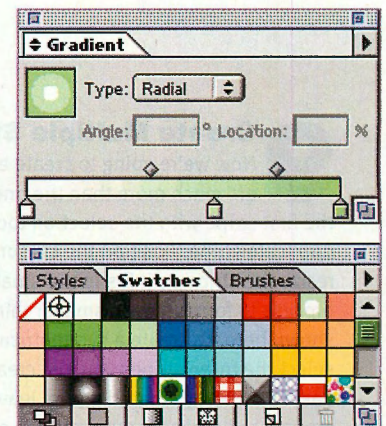


5 Adjust the Gradient

Next, we'll move the center of the gradient to create the illusion that a light source from the top left is bouncing off the surface of the 3D egg. First select the egg with the selection tool, then select the gradient tool (this one's obvious—it looks like a gradient) from the toolbox. Click outside the egg in the top left quadrant (around 10 o'clock). This action moves the center of the gradient to the top left of the object. You'll probably have to click a few times to get it right. Next you'll want to slide the squares along the gradient bar to adjust the colors in relation to each other. The edge near the border of the egg should appear almost completely white, approximating the effect of bright sunlight hitting the surface. From there, gradually darken the color to your darkest hue. Again, this will take a few tries. When you're done, your image should look something like the one shown here.



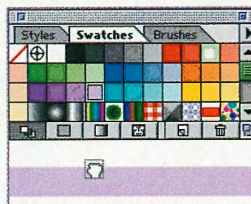
Proper use of light creates a 3D effect.



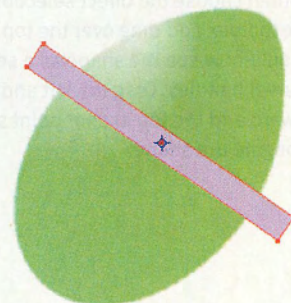
ADD DIMENSION: LET THERE BE STRIPES

6 Drawing a Basic Easter Egg Stripe

Now we'll begin the process of creating decorative curved stripes. Select the rectangle tool from the toolbar and draw a thin rectangle next to your egg. From the Swatches palette, drag a color swatch (we chose purple) onto the rectangle to add a fill color. Using the selection tool, drag the rectangle onto the egg. Double-click the rotate tool to bring up the Rotate dialog box and enter 35 degrees (this should approximate the egg's slant) into the Angle field. You can also manually rotate the rectangle with the mouse. Select the egg and drag the side handles inward so the rectangle has approximately the same width as the egg.



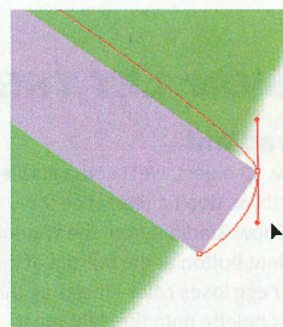
Chillax!¹ You're halfway to a striped Easter egg.



Move and rotate your rectangle onto the egg.

7 Add Direction Lines to Shape the Stripe

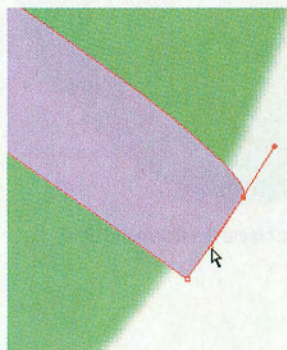
Our task now is to use the rectangle (from step 6) to create a set of curved Easter egg stripes with the stripes at the end of the egg slightly more curved than the ones in the middle. These stripes will emphasize the egg's near-ellipsoidal shape. Select the rectangle with the direct selection tool (the one on the right). Next, hold down the pen tool until the row of hidden tools appears. At the end of the row, select the convert anchor point tool, which looks like an inverted V. This tool will transform the rectangle's straight edges to curves with independent direction points. Grab a corner point with the anchor tool and drag slightly outward away from the egg (not so far that you destroy the rectangle) to show the points' direction lines.



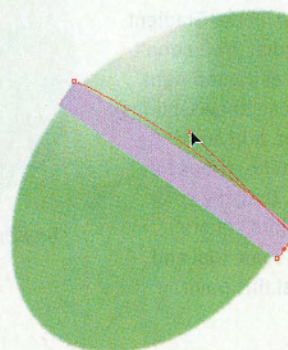
Use the anchor tool to convert the rectangle corners into smooth points.

8 Curve the Stripes

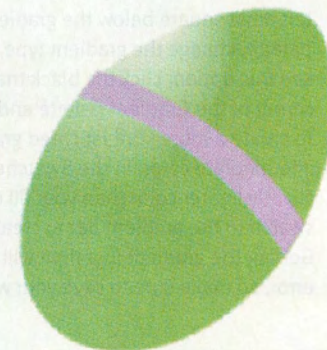
With the convert anchor point still selected, drag the bottom direction point back onto the rectangle to maintain a straight side. Next, grab the top direction line and drag it toward the middle of the egg to create a curve. Repeat this process on the rectangle's lower left corner. As you work, save constantly—this will take some trial and error.



Line up the bottom direction line against the rectangle's edge to maintain the straight line.



Adjust the top direction line to create a slight arc along the top of the rectangle.



One stripe down and five to go.

9 Create Multiple Stripes

Now we're going to create a few more stripes, the stripes around the egg's edges will arc much more than the ones closer to the center. They will also be a bit smaller. Select the first stripe with the selection tool. From the Edit menu, select Copy, Paste to create a duplicate stripe. Position the cursor over the new rectangle's diamond-shaped handles to resize the stripe so it fits in the smaller area of the egg above the first stripe. Repeat this process to form an even smaller third strip until you have an image that looks like the one shown here. To create a symmetrical set of stripes to fill out the bottom half of the egg, Shift-select the three stripes you just created. Go to the Object menu and choose Group. Copy and Paste this newly created group, leaving it selected. Double-click the rotate tool to rotate the group 180 degrees for the rotation angle. This flips the stripes so you can now position them on the lower half of the egg.

Use Copy, Group, and Rotate to create the second group of stripes.

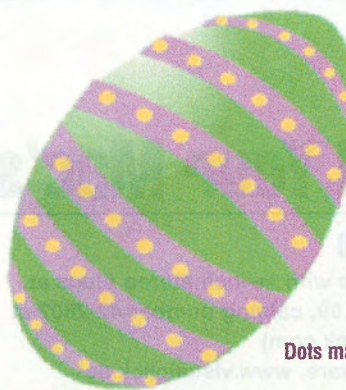


1. Chillax (chil'-ax) vi. 1. Combination of Chill and Relax, <http://justchillax.50megs.com/howto>

FINAL TOUCHES FOR THOSE WHO BELIEVE IN EGG-CELLENCE

10 More Dots and Lines

By now, you've created a basic Easter egg—but if you're like us, you'll find it far too plain-vanilla. We added some yellow polka dots by choosing a pale yellow color from the Swatches palette, then clicking the ellipse tool in the toolbox. Holding down the Shift key, we drew a very tiny circle. We then copied, pasted, and positioned the dots over all the purple stripes.

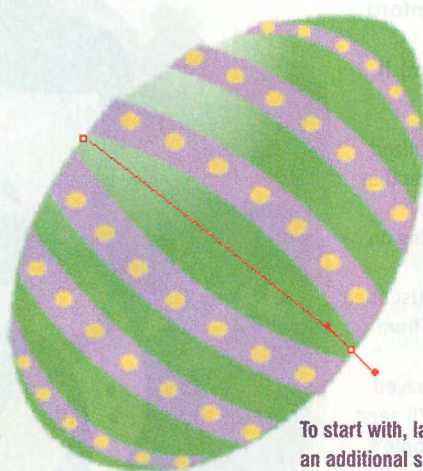


Dots mark the spot.

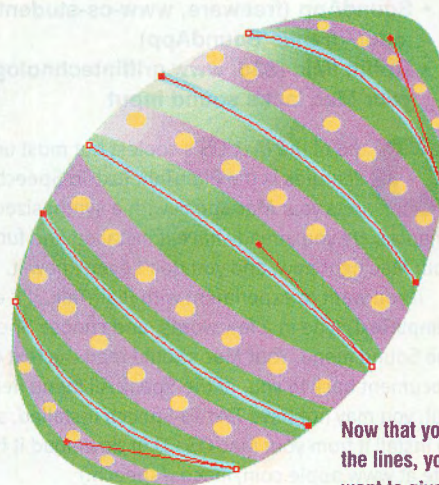
11 Brushes, Swatches, and Styles—Oh My!

An easy way to create additional patterns for your egg is to dress up simple lines with the patterns in Illustrator's Brushes and Styles palettes, which are grouped with the familiar Swatches palette. First create a series of six arced lines similar to the rectangles you created in step 7—drawing the middle two lines fairly straight and the outer four smaller and more curved. Do this by selecting the pen tool, clicking once at one edge of the egg, then move the mouse to the opposite side of the egg, and click and drag to create a curved direction line. You can then adjust the direction line to create your desired curvature. Choose a stroke color and width, leaving the fill color blank. Copy, paste, and resize this line per the instructions in step 7.

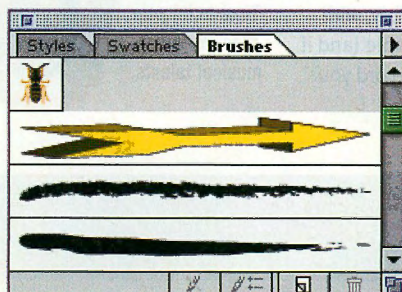
Now you can have some fun. Click the Brushes palette and select from the range of available patterns. If these don't float your boat, go to the Window menu and try additional designs from the Brush Libraries fly-out menu. Be careful—you can easily overreach yourself in this department. We tried some bees from the Animal Sample brushes. Slightly grossed out, we reverted to a simple, pale blue 6-point flat brush.



To start with, lay out an additional series of arced lines.



Now that you've created the lines, you might want to give them style.



You can add style to a simple line with Illustrator's Brushes and Styles palettes.



Bees on eggs? Too much style!

12 Polishing and Exporting Your Egg

Congratulations—you've created an egg. To give it just a little more polish, select all the elements of your egg with Command-A. Choose Outer Glow from the Stylize fly-out box in the Effects menu. In the ensuing dialog box, change Mode to Soft Light and click OK. A yellow glow will soften your egg, taking the harshness out of edges. Save your file and export it into the file format (TIFF, JPEG, or whatever) you need.



Ms. Cottontail would love these soft, glowing eggs.



Record Your Mac's Voice

by Buz Zoller

WHAT YOU'LL NEED

- An audio cable with 1/8-inch stereo plugs at both ends (\$9.99, catalog number 42-2607 at www.radioshack.com)
- Coaster (freeware, www.visualclick.de)
- SimpleText
- SoundApp (freeware, www-cs-students.stanford.edu/~franke/SoundApp)
- Griffin iMic (\$35, www.griffintechnology.com) if your Mac lacks sound input



Find Coaster
1.1.2 on The
Disc.

One of the Mac OS's coolest but most underutilized features is the PlainTalk Text-To-Speech engine that lets your Mac speak with a synthesized voice.

Chances are you already have it installed and functioning on your Mac right now, and you don't even know it.

If you want to experiment with PlainTalk, it's easy: Just open SimpleText, type in a few words, and choose Speak All from the Sound menu. Your Mac should read the text of the document back to you. (If the Speak All menu item is grayed out, you may not have Text-To-Speech installed, so you'll need to install it from your Mac OS CD or download it from Apple's site at www.apple.com/macos/speech.)

The limitation of this technology is that you can't record your Mac talking—it just sends its voice through the speakers, and that's it. That might seem a shame, since it's easy to imagine uses for the voice—narration of QuickTime movies, interesting effects in sound loops, and so on. Fortunately, with some freeware and about ten bucks' worth of audio cable (and if your Mac lacks audio input, a \$35 adapter), you can record your Mac's voice for whatever purpose you want.



Time to let your
Mac explore its
musical talents.

ILLUSTRATION BY NATHAN JUPEVICIUS

Audio In?

For several years, every new Mac came with a PlainTalk audio input port. For some reason, Apple designed the port to require line level signals instead of the usual mic level ones (see "Use a Standard Microphone with the Mac," Nov/00, p78). This made the port difficult to use as a microphone port but ideal for recording line level signals sent out by CD players, tape decks, and the like.

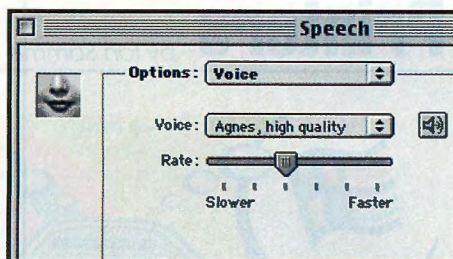
Unfortunately, over the last year or two Apple has moved away from the funky PlainTalk port and now requires that audio input use USB. Fortunately, the irrepressible geeks over at Griffin Technology (www.griffintechnology.com) promptly built the iMic, a \$35 device that supplies high-quality audio inputs and outputs over USB. If you've been missing your audio input, just slap on an iMic and you're back in business.



The Griffin iMic is a good, cheap device for giving a newer Mac a microphone port.

1 Hold an Audition

Open a blank SimpleText document and enter the text you want your Mac to speak. Try out the different PlainTalk voices (accessible through the Speech control panel) to find out which one you like best. You should also time how long it takes your Mac to speak the text, since you won't hear anything while you're recording.



Try all the voices in the Speech control panel to figure out which ones you like. You can vary the effect by adjusting their speeds.

2 String the Cables

If you've got a newer Mac without a microphone port, you'll need a USB audio input adapter like Griffin Technology's iMic. On the iMic, slide the small switch at the front of the case toward the microphone icon to switch the input to line level.

Open the Sound control panel and select External Microphone (if you aren't using an iMic) or Line In (if you are) as the input source. Whatever you do, don't check the Play Sound Through Output Device box, or you'll get nasty feedback. Now plug one end of the audio cable



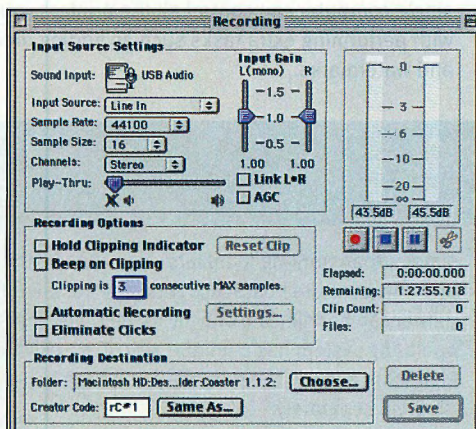
into your microphone port and the other end into your speaker port. Any sounds your Mac makes will route right back into its audio input port.

The Mac's microphone port wants a line level signal—we can just plug our audio output right back into our audio input!

3 Set Up Coaster

Open Coaster and set the Input Source pop-up menu to External Mic (or Line In, if you're using an iMic). With both SimpleText and Coaster open, arrange the two windows so they appear side by side.

Coaster is great if you want a free, no-frills way to record an input sound.

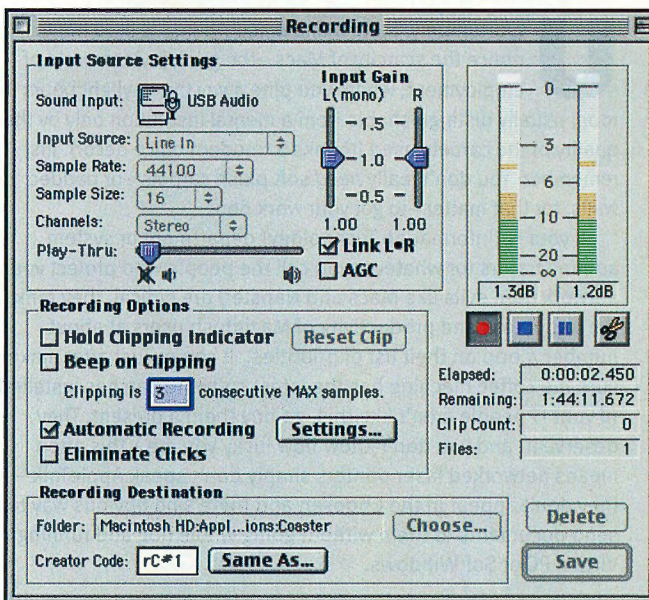


4 Record the Voices

Click the Coaster window, then click the Record button (the red circle). Coaster will ask where to save your recordings, then it will begin making its first recording. Once Coaster is recording, click your SimpleText window and press Command-H (the keyboard command for Speak All).

You will not hear anything, but you should see Coaster's VU (audio level) meters moving. Since you timed how long it takes for the Mac to read your document in step 1, you should have a good idea of how long to wait before stopping the recording.

Typically, there will be a long delay at the start of the recording while you switch to SimpleText and start playing the voice. If you want to avoid the delay, check the Automatic Recording box, then click the Settings button. A dialog box will appear where you can set both how low the playback volume can go before Coaster interprets the sound as silence and a maximum silence length that will pause Coaster's recording. These adjustments get rid of the delay at the beginning.

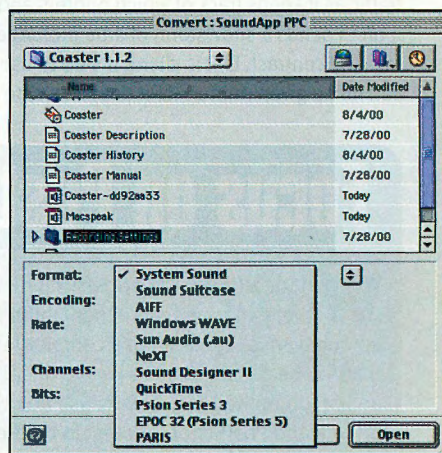


You'll know the recording is done when the VU meters (above, right) drop back to zero.

5 Save Your Recording

Now that you've recorded your Mac's voice, unplug the cable you used to connect your microphone and speaker ports. Since Coaster only records AIFF files, you'll probably need to convert the sound to some other format before you use it. The freeware utility SoundApp is perfect for this—you can use it to translate your sound into whatever format you need.

SoundApp offers an easy way to convert your sound quickly from AIFF into whatever format you need.





Print to PC PostScript Printers

by Ian Sammis

WHAT YOU'LL NEED

- For Unix printing: Mac OS 8.5 or later
- To deal with some print servers: NetStripper (www.kagi.com/ajlloyd/products/netstripper)
- To share a printer with Unix machines: Print66 (www.geocities.com/barijaona/print66.html, freeware)
- For SMB printing: Connectix's DoubleTalk (www.connectix.com, \$99)
- For Novell printing: Prosoft Engineering's Netware Client for the Mac (www.prosofteng.com, \$89)



Find Print66
on The Disc.

Unfortunately, there's one place where it's hard not to notice the scarcity of Macs—the grim, joyless world of employment, where you pine away the daylight hours in a room usually distinguishable from a mental institution only by the quality of the carpets used (thanks to modern office decor). Just remember: You don't really *need* soft plush carpets—or padded walls, for that matter—to get your work done.

If your IT (Information Technology) department or system administrators (or whatever you call the people who protect your network from evils like Macs and Napster) are typical, they rank the happiness and productivity of Macintosh users at about number 4,000 on their list of priorities. It comes just after making sure the coffee machine has the latest software patches installed. (If your IT people aren't like this, go buy them a present. They deserve it, and you don't know how lucky you are.) This often means networked laser printers simply don't speak AppleTalk—they don't appear in the Chooser, and there's no obvious way to send documents to them without going whole hog and running Virtual PC or SoftWindows.

Print to an LPR Queue

If you're in college, odds are you work in a Unix environment. Unix was originally free, and since schools are always interested in free things, it quickly became their operating system of choice.

LPR (line print) printing is in many ways the antithesis of AppleTalk printing. AppleTalk generates a fair amount of network traffic as it keeps track of which printers and file servers are available; it often sends a snowstorm of little messages that amount to name tags. By contrast, LPR is silent. It's up to users to know where they can find a given printer—LPR doesn't waste a single network message

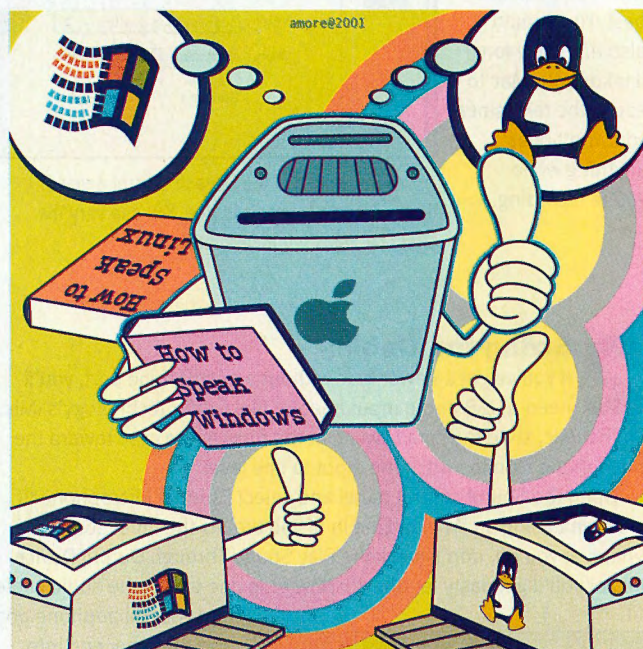


ILLUSTRATION BY AMORE HIROSUKE

If you can't beat 'em, borrow their printers.

So what's a PowerBook-toter to do? Use that rotting hulk of a Celeron that IT plopped on your desk? Heck, no! It's easy to make your Mac speak to PostScript printers configured for most other major operating systems (Linux, NetBSD, and other Unix variants). If you've got a hundred bucks, gloves, and long metal tongs, you can even get your machine to print to Windows-configured printers.

on making things easy for its users. If you're either setting up a system for your own use or setting up a system you intend to control with a fist of iron, LPR is a reasonable printing solution.

In LPR, you typically "print" to a computer that's assigned the job of collecting print requests and sending them on to the printer itself. This is great if you're running a lot of printers—a single computer can control all the printers you need, along with performing extra tasks such as adding identification pages and watermarks.

Focus on PostScript

What's a PostScript printer? High-end printers (typically those that cost more than about \$700, although the amount varies) speak a fairly complex language called PostScript that Adobe developed as a way to tell printers what should appear on printed pages. Because nearly all high-end printers understand PostScript, printing to high-end printers is somewhat

simpler than printing to inkjets—you can use the LaserWriter driver to generate PostScript code any PostScript-equipped printer can handle. The only fly in the ointment is that each operating system has a unique way of actually *delivering* PostScript code to the printer—you'll have to handle that problem separately.

1 Find the Stats

Before you start, you'll need to extract two pieces of information from the Keeper of the Printer (usually your IT department): the IP number of the machine running the print spool, and the name of the queue. The former will either be a series of four groups of numbers, separated by periods (206.57.18.192, for example), or a machine name (print.deaddotcom.com), while the latter is usually either a descriptive name for the printer (roomsprinter) or some more whimsical name (dalek).

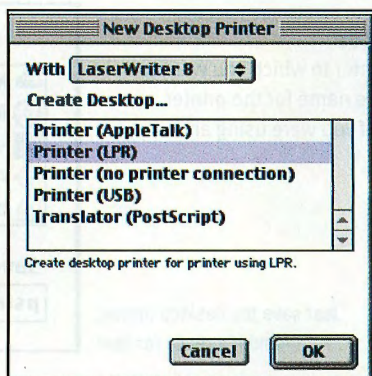
MACHINE: 206.57.18.192
PRINTER: pslaser

The first step in setting up an LPR printer is getting this information. Hope your network administrator has legible handwriting!

2 Choose an LPR Printer

Launch the Desktop Printer Utility. If you're not familiar with this wonderful little utility that lets you create a variety of... um... *nontraditional* desktop printers, look in the Utilities folder in the Applications folder (if you're using OS 9) or the Apple LaserWriter Software folder in the Apple Extras folder (if you're using an earlier system). You can use the print Utilities folder to create a variety of useful and offbeat printer types.

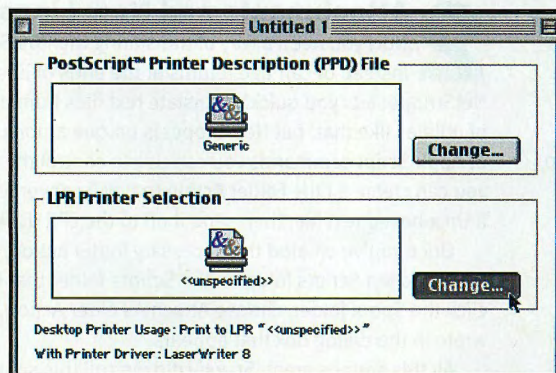
In this case, you're trying to print to an LPR queue, so select Printer (LPR), then click OK.



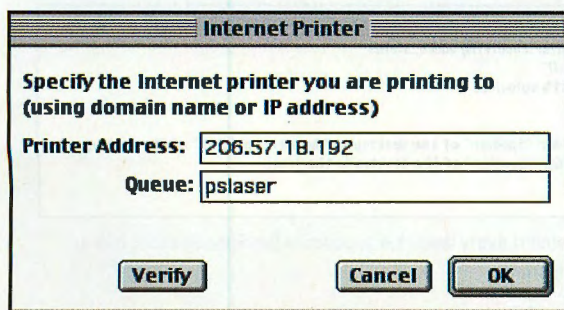
Apple has been planning its move to the Unix world for some time, so printing to Unix-based printers is easy!

3 Enter the Printer Information

Click the Change button in the LPR Printer Selection box. Enter the printer address and queue (which you found out in step 1) in the dialog box that appears, then click OK. If you want to test your selection, click the Verify button to make sure the printer address you've specified has at least an LPR server running. Be warned—this won't test the specified queue, so even if you've misspelled its name the Verify attempt will succeed.



To get started, you'll have to change the LPR Printer Selection.



The process of entering this information is a weak link in LPR printing. The first sign you'll get if you've made a mistake in the print queue is that the desktop printer simply won't work.

A Time to Serve

It's conceivable that you might want to run an LPR queue from a Mac instead of simply printing to one. This might come up if you want to let a Unix-based friend print to a device on your AppleTalk network, particularly if your friend isn't savvy enough to work out how to use the AppleTalk network directly. Whenever you need an obscure piece of network software, MacOrchard (www.macorchard.com) is a good place to turn, and this case is no exception—we quickly found a great little utility called Print66 that will get the job done in no time.

When you unstuff Print66, you'll see a folder called Spool Folder. Dump that folder into your System Folder and edit the file you'll find inside, named LPD config. The file is impossibly large and complex, but you only have to add two lines. You'll need a printer line like the following:

```
PRINTER "lprinter" PAP "Ruatha"
POSTSCRIPT
```

This text tells Print66 to make the AppleTalk printer Ruatha accessible to Unix users as the LPR queue lprinter. (In other words, Unix lovers can set up the printers on their machines as lprinter and point them at your Mac). You'll also need to add a line similar to the following:

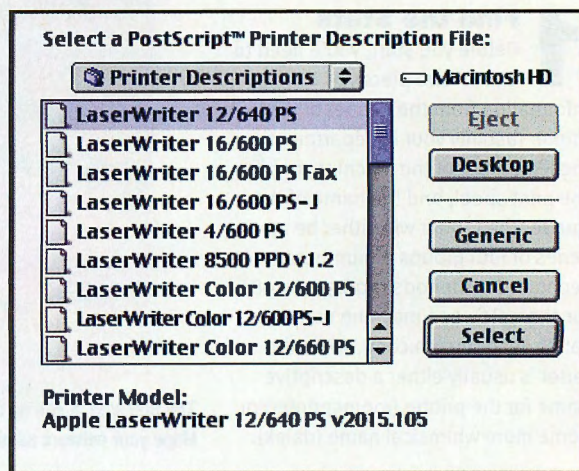
```
HOST linuxguy.yournet.net
```

This piece of text gives Print66 the IP addresses for the machines you're allowing to print to the printer. The line above only allows jobs from linuxguy.yournet.net to print. You'll need a separate HOST line with the IP number of each machine that requires printer access.

4 Pick the PPD

To deal with any extra paper trays or print options your printer might support, you'll need to choose the appropriate PPD (PostScript Printer Description) for your printer. Apple includes PPDs for most LaserWriters with the Mac OS itself; PPDs for most non-Apple printers are available from printer manufacturers. If you can't find a PPD for your printer or don't want to take the time to look for one, just choose Generic, which works fine for the vast majority of printers.

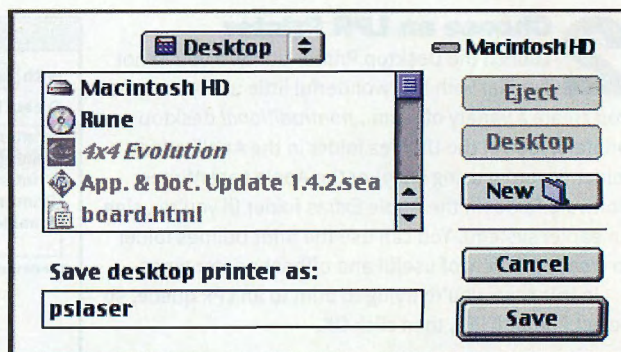
Choose the PPD for the printer you're targeting; if you don't see the correct PPD, use Generic.



5 Create the Desktop Printer

Now that you've fully specified the printer to which you want to print, click Create. Choose a memorable name for the printer, then click Save. That's it—you can print just as if you were using an AppleTalk printer.

Just save the desktop printer, and it's ready for use!



Caveat Cisco

Some older print servers written by Cisco Systems have problems accepting files printed from a Mac. The problem is that Macintosh text files (including PostScript code!) use a different character for returns than most operating systems—and the Cisco print server will cheerfully treat the entire Mac file as one line until it runs out of memory and gives up. Cisco has a solution; however, if you can't convince your IT department to follow Cisco's instructions, you'll have to fix the problem yourself. There isn't any particularly good solution for the moment, but you can do an end run around it by following these steps:

1 Create a Translator

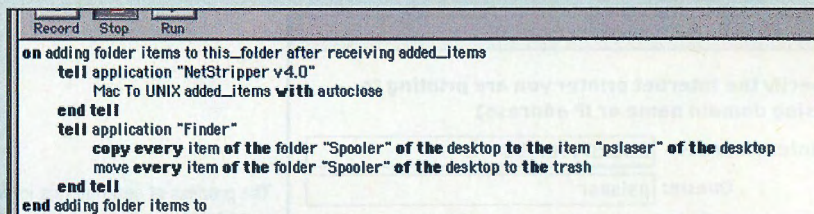
Using the Desktop Printer Utility, create a Translator (PostScript). A translator creates a PostScript file (just like any desktop printer), but just saves it instead of sending it to a printer. Create a folder called Spooler and set the Translator to save files into this folder.

2 Attachments and New Lines

Now you need a way of translating the PostScript file so it uses line feeds instead of carriage returns at the ends of lines. Another great utility called NetStripper lets you quickly translate text files from one format to another. There are a lot of utilities like that, but NetStripper is unique among them in that it supports a nice set of AppleScript commands you can use to control the translation from a script. With that, you can create a little Folder Action that will convert every item saved into the folder into a Unix-based text file, then send it off to the LPR desktop printer you created earlier.

Once you've created the necessary folder action, save it as a compiled script into the Folder Action Scripts folder in the Scripts folder that lives in the System Folder. Control-click the Spooler folder, choose Attach A Folder Action, then choose the script you just wrote in the dialog box that appears.

All this sounds great. So why did we call this solution an end run? Unfortunately, a quirk in the implementation of Folder Actions keeps you from using them as the ultimate automation tool: They only fire up if a visible portion of the Finder changes, so if you want this little app to work, you'll have to keep the Spooler folder open at all times.



This little marvel of a script will convert every item that appears in the Spooler folder into a Unix text file, then send it on to the printer.

Print to a Windows Network Printer

For some time, Windows didn't support network printing. This, as you can imagine, was not a good thing. Networking giant Novell stepped up to the plate and provided its own networking and printing code, which Windows subsequently relied on for years.

Later, Microsoft decided that leaving something as important as networking in the hands of a third party wasn't one of its better ideas, and the company released its own networking standard (first called NetBIOS, later called Session Message Blocks or SMB).

No matter which sort of network your Windows-lovin' coworkers are using, there's a good way to sneak in your Mac and start printing. If you need to speak SMB, two products can help out: Thursby Software's DAVE (www.thursby.com, \$149) and Connectix's

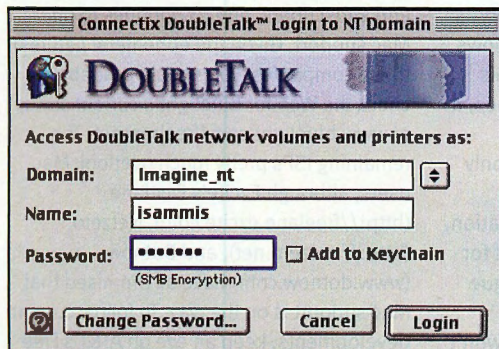
DoubleTalk. We'll focus on DoubleTalk because it's the less expensive package (you don't want to spend more than necessary just to talk to Windows boxes). If you want your Mac to talk to a Novell network, you'll need the Novell NetWare client for the Macintosh, currently supplied by Prosoft Engineering.

DoubleTalk works by making your Mac see the various domains of your SMB network as additional AppleTalk zones. To print to an SMB printer, just click the LaserWriter icon, then highlight your printer's workgroup. All SMB printers in that workgroup will appear. The Netware client takes a more traditional approach—it appears as another type of printer in the Chooser. Either way, once you create a desktop printer, you can use it as you would any other printer.

DoubleTalk Printing

1 Log On

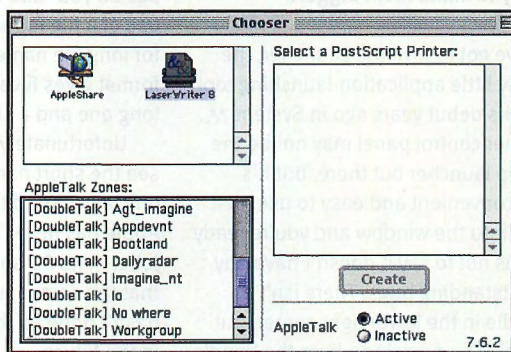
First you'll have to log on to your Windows network, just as you would from a Linux machine. To get started, install DoubleTalk, then choose Connectix DoubleTalk Login from the Apple menu and enter your name and password.



Once you log on to the SMB network, you can access SMB printers and file shares (SMB's answer to AppleShare servers.)

2 Find the Printer and Configure It

If you open the Chooser, you should now find that the various workgroups on your SMB network appear alongside any AppleTalk zones you might find. Click to select your workgroup, then click your printer. Click the Create button to create a desktop printer. You can now print as you would normally.

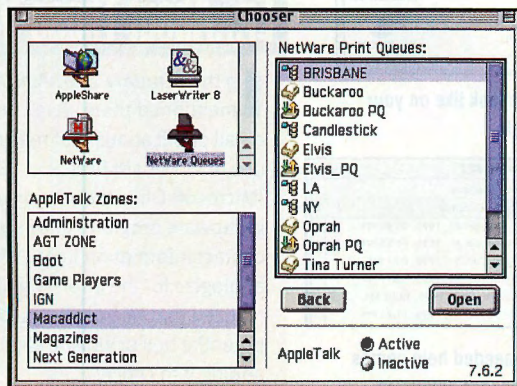


DoubleTalk makes SMB domains appear as AppleTalk zones.

NetWare Printing

1 Find Your Printer in the Chooser

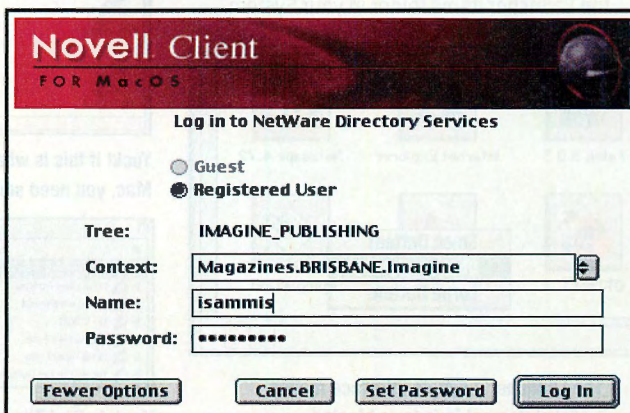
Open the Chooser and select the NetWare Print Queue printer. In the right side of the Chooser, you can now browse through your Novell network (it should look a bit like a hard drive, with groups instead of folders). Browse through the network to find your printer, then click Create to create a desktop printer. You can now print normally.



A Novell network is structured much like a hard drive; you may have to browse around to find your printer.

2 Log On at Print Time

When you first try to print to the printer, you'll be required to log on to the Novell network. At this point, just type in your password (if you can't remember it, check the tattered old piece of paper your system administrator gave you when you joined the company).



When you're about to print, you'll have to log on.

Ian Sammis has now printed files to the same printer using many, many methods.

ask us

Video and Joliet, with a side of eggs.

Questions?

Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o **MacAddict**, 150 North Hill Dr., Brisbane, CA 94005.

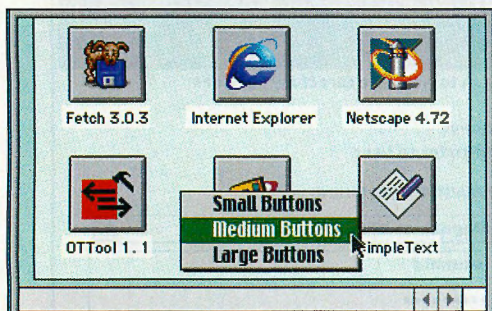


Find Joliet Volume Access 1.3, SoundApp 2.7.3, and MPegger Drop Decoder on The Disc.

Q I'm a teacher and I use an iMac in my classroom. My kids are pretty young and have trouble with much of the double-clicking and standard Mac interface tricks, so I rely on the Launcher control panel, which they can use to just click and go. This is great, but the icons are so small. Is there a way to make them bigger?

A You've got to love the Launcher, the handy little application-launching tool that made its debut years ago in System 7.5. The Launcher control panel may not be the fanciest app launcher out there, but it's extremely convenient and easy to use. Just drag items into the window and you're ready to go. This is not to say it doesn't have any flaws or outstanding bugs. There isn't a resize handle in the lower right corner, but you can resize by dragging where the handle *should* be. The biggest problem with the Launcher, however, is that it remains undiscovered by many Mac users.

This leads to the question at hand; of course you can change the size of the icons. Simply hold down the Command key while clicking in the space between the buttons to choose from Small, Medium, or Large options. You can also customize your Launcher by creating subcategories. Open the Launcher Items folder in your System



The Launcher's simple interface makes a real statement in today's bloated, plethora-of-features software world.

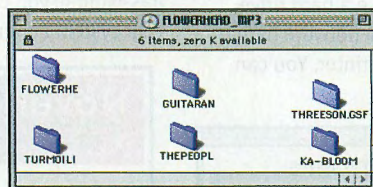
Folder and create folders with names that begin with a bullet character (Option-8). To heck with those shareware launchers—use Apple's free one!

Q I often use Windows PC with a CD burner to back up files at work. But when I open the CD on my Mac at home, the file names are all truncated. Please tell me there is something I can do; it's making my Mac look bad.

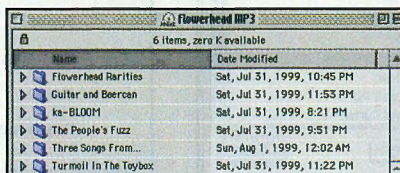
A Leave it to Microsoft to create its very own standard for storing file names. The truncated eight-dot-three name you see on your CDs is the result of Microsoft's use of a file format called Joliet that allows for long file names under Windows. This format gives files and folders two names, a long one and a short one.

Unfortunately, the Macintosh can only see the short name. Since Joliet is not officially part of the ISO-9660 specification, Apple has never implemented support for Joliet in its CD software. One might argue that the company really should, but it hasn't done so thus far and probably won't in the future.

Lucky for us Mac users, then, that Thomas Tempelmann has created a free extension (Joliet Volume Access, freeware, www.tempel.org/joliet), giving your Mac the ability to see Joliet CDs in all their long-file-name glory. If you regularly deal with discs burned by PC users, you *need* this software.



Yuck! If this is what CDs look like on your Mac, you need some help.



Much better! The much-needed help comes from the Joliet Volume Access extension.

Q Last year, tons of companies offered free Internet access, including some with Mac support. Recently there have been many rumors that these companies are closing their doors. Are there any free ISPs still around that support the Macintosh?

A Given their business plans, somehow we just aren't surprised that most of these free access companies have called it quits. While some are still around, Mac support is not very high on their list of priorities. The only one we've found that still offers Mac support is Bluelight—this K-Mart company recently acquired Spinway's assets and subscribers, and it continues to offer Mac support. Given the ephemeral nature of these companies, you should probably check the Web for Bluelight's current status at www.bluelight.com/freeinternet. The remaining ISPs pretty much overlook Mac users, although Excite's Fastlane (<http://freelane.excite.com>), Netzero (<http://netzero.net>), and Dotnow (www.dotnow.com) have all promised that Mac support is on the way. To follow current developments, keep an eye on AT&T's Free Internet Access information site at <http://freeinternetaccess.home.att.net>.



One ISP still supports Macs—at least for the time being. In this volatile market, companies come and go like the Lycos "Go Get It!" dog.

Er...About Those VCF Files...

In the February 2001 *Ask Us* column, we mentioned there were currently no Mac email applications that really exploited the use of VCF vCard files. Well, Entourage (Microsoft Office 2001's included email and groupware program) allows you to import contact information from VCF files. We apologize for the error—we should have realized that Microsoft wouldn't let a potential bell or whistle slip by without adding it to Office!

Q Is there a way to have a DVD movie playing as the background picture onscreen? I remember seeing this at a Demo Days event last year.

A Unfortunately, the answer is a resounding *yes and no* because Apple has treated DVD playback in two very different ways. When Apple first introduced DVD video playback with the blue-and-white Power Mac G3s, these machines relied on special hardware to handle the DVD decoding. This consisted of a proprietary add-on module for the built-in ATI Rage 128 PCI video card. This hardware did all the hard computing work and allowed smooth video playback. Apple continued to rely on this hardware-based DVD solution in the first few generations of PowerBook G3s.

This all changed with the introduction of the Power Macintosh G4s. Apple now uses software to decode DVD video, since the G4 is quick enough to handle the complex task.

This means your computer uses all of its power to play back a DVD movie onscreen.

As for the original question of having a DVD movie playing as your background screen, the *yes* answer is for those computers with hardware-based DVD playback and the *no* answer is for the software playback machines. It takes a lot of horsepower to play back DVD video, and the Mac can't simultaneously play a DVD and complete other tasks.

If you've got a hardware-based DVD player, start by playing a movie with the Apple DVD Player. Set the video to full screen by selecting Present Video On Screen from the Video menu, and hide the controller. Take a screenshot by pressing Command-Shift-3, then quit the Apple DVD Player application. Rename the shot something like "DVD Screen" (the specific name doesn't matter). Open the Appearance control panel and set the file you've just saved as the background image. Your background should now be an

ugly greenish color, because no data is coming in from the MPEG-decoder card. Now start up the movie you want to have running in the background and play it at full screen. While it's running, go to the application menu in the upper right corner and choose Hide Apple DVD Player. The Finder should pop up with all your icons and windows on top of the running movie. This is a great way to avoid getting work done.

Q My parents bought me a cool CD burner for Christmas last year, and I want to make my own audio mix CDs using the MP3s I download from Napster. I've tried burning MP3s to a CD using Toast, but the CDs don't work in my car's player. What the heck am I doing wrong?

A Apple may have been late on the CD-RW scene, but now that it has arrived, let's start making CDs! If you want to create audio CDs from MP3s, you have a couple of easy options. The simplest (but not the cheapest) method is to update your Toast CD-burning software to the \$99 deluxe version (www.roxio.com). The Deluxe version of Toast allows you to drag and drop MP3 files into the Toast window after selecting Audio CD as the format. It does all the conversions necessary to create an honest-to-goodness audio CD from your MP3 files. If you just have the standard OEM version of Toast, you'll need to convert your MP3 files into AIFF files before you can burn them. Once you've got them in AIFF format, you can drag them into the Toast Audio CD window. There are a variety of tools available to create AIFF files from MP3s, such as the wonderful freeware SoundApp (www-cs-students.stanford.edu/~franke/SoundApp) and the easy-to-use shareware Mpegger Drop Decoder (\$9.95, www.proteron.com/dropdecoder). Regardless of what utility you use to convert your MP3s into AIFF files for CD burning with the standard version of Toast, AIFF files can end up ten times as large as MP3s, so make sure you have plenty of drive space available.

Microsoft-Boiled Eggs

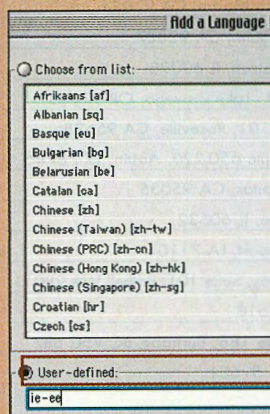
Q Where I work, we use Macs and rely heavily on Internet Explorer. Because I am a woman, many of my male colleagues tend to treat me as a computer novice and constantly make me feel inadequate about my computer knowledge. I mentioned this to a friend of mine, and she said it sure would be cool if you knew some secret about Internet Explorer that they didn't. She said something about finding the Easter egg. I'm game, but I just don't know where to look. Is there one I can use to show up my chauvinistic partners?

A Easter eggs are secret messages or unusual behaviors that programmers hide in their applications as a sort of inside joke. In Mac OS 9, you can call up a secret dialog box by holding down the Option key while choosing About This Computer from the Apple menu or by holding down Command-Option-Control while choosing the same menu item (Apple has removed the latter from Mac OS 9.1). Over the last few years, Apple has been squashing most of the Apple-branded eggs, but it's obvious that Microsoft has yet to rein in its Mac developers. There actually is a pretty nifty Easter egg hidden away in the Mac version of Internet Explorer 5, and it isn't that difficult to uncover if you know how. Here are the steps.

1. Open the Preferences dialog box from the Edit menu and highlight the Language/Fonts item under Web Browser.
2. Click the Add button and add a User-Defined language called ie-ee.
3. Move this language to the top of the language list by clicking the Move Up button, then click OK.
4. In the main Explorer window, click the Search item on the left (the Explorer Bar).
5. You should now see some rather odd search choices, such as Find Yourself. Try clicking the Previous Searches radio button for more options. You might even click the Customize button. There are a few more in this area, but we'll leave it to you to discover them.



To see this cool animation, you must know how to uncover the secret Easter egg in Internet Explorer 5.



Toast Deluxe makes creating audio CDs from MP3s a snap.

ADVERTISER INDEX

ADVERTISER	ADDRESS	PHONE	WEBSITE	PAGE
Academic Superstore	111 West Anderson #D207, Austin, TX 78752	(800) 294-4035	www.academicsuperstore.com	100
AllMac/We Fix Macs	2202 No. First St., San Jose, CA 95131	(800) 933-4962	www.ALLMAC.com	102
America Online	Two Wells Avenue, Newton, MA 02459		www.aol.com	
Apple Computer	1 Infinite Loop, Cupertino, CA	(800) 500-4862 #100	www.apple.com	2, 3
AppleWorks Users Group	P.O. Box 701010, Plymouth, MI 48170	(888) 781-AWUG	www.awug.org	100
APS Technologies	22985 NW Evergreen Parkway, Hillsboro, OR 97124	(800) 395-5871	www.apstech.com/	88, 89
Belkin Components	501 West Walnut, Compton, CA, 90220	(800) 2-Belkin	www.belkin.com	39
ClubMac	7 Hammond, Irvine, CA 92618	(800) 258-2622	www.club-mac.com	80, 81
Coast to Coast Memory	174 Willow St., East Brunswick, NJ 08816	(800) 4-Memory	www.18004memory.com	103
Compu America	10435 Santa Monica Blvd. Los Angeles ca 90025	(800) 533-9005	www.compu-america.com	102
Connectix	2955 Campus Drive, San Mateo CA 94403	(650) 571-5100	www.connectix.com	17, 35
Contour Design	354 North Broadway, Salem, NH 03079	(800) 462-6678	www.contourdesign.com	97
Data Memory Systems	24 Keewaydin Drive, Unit 5, Salem NH 03079	(800) 662-7466	www.datamem.com	98
Drive Savers	400 Bel Marin Keys Blvd., Novato CA 94949	(800) 440-1904	www.drivesavers.com	103
Eritech International, Inc.	213 N. Orange St., Unit C, Glendale, CA 91203	(800) 808-6242	www.eritech.com	102
EZQuest	23311 La Palma Ave., Yorba Linda, CA 92887	(714) 694-0031	www.ezq.com	96
FORMAC Electronic, Inc.	1510 6th St, Berkeley, CA 94710	(877) 4Formac	www.formac.com	92
Gotcha Computer Covered	5709 Paseo Recallo Court, Las Vegas, NV 89108	(702) 645-6887	www.intermind.net/~woicicki/	99
Griffin Technology	1619 Elm Hill Pike, Nashville, TN 37210	(615) 255-0990	www.griffintechnology.com	100
HardCore Gear	8200 Jantzen Road, #99, Modesto, CA 95357	(209) 814-8632	www.hardcore4mac.com	99
Houston	907 E. Pike St., Seattle, WA 98122	(800) 932-5475	www.wehaveaproblem.com	102
IK Multimedia	Via Canalino 5, Modena, Italy, 41100	(800) 747-4546	www.groovemaker.com	99
Intego	10 Rue Say 75009, Paris, France			57
Keyspan	3095 Richmond Parkway, #207, Richmond, CA 94806	(510) 222-0131	www.keyspace.com	99
LA Computer Center	450 North Oak St., Inglewood, CA 90302	(800) 689-3933	www.lacc.com	96
Leister Productions	P.O. Box 289, Mechanicsburg, PA 17055	(717) 697-1378	www.leisterpro.com	98
Mac Power Sales & Service	1080 Blossom Hill Road, Suite E, San Jose, CA 95123	(888) 275-POWER	www.macpowerinc.com	101
Mac Solutions	11933 Wilshire Blvd., West L. A., CA 90025	(800) 873-3RAM	www.macsolutions.com	100
MACE Group/macally Peripherals	5101 Commerce Drive, Baldwin Park, CA 91706	(800) 644-1132	www.macally.com	103
MacMall	2555 West 190th St., Torrance, CA 90504	(800) 965-3282	www.macmall.com	90, 91
Mac Of All Trades	500 Bishop St. Suite E3, Atlanta, GA 30318	(800) 304-4639	www.macofalltrades.com	101
MacResQ	6405 Metcalf Ave., #200, Overland Park, KS 62202	(888) 447-3728	www.macresq.com	101
Macs4U.com	7372 Prince Drive, #101, Huntington Beach, CA 92647	(800) 224-5899	www.macs4U.com	102
Mac Sales	10210 North 32nd St., Suite A1, Phoenix, AZ 85028	(888) 622-7253	www.macs4sale.com	101
MacZone	707 South Grady Way, Renton, WA 98055	(800) 304-0286	www.maczone.com	82-85
MCE Powerbook Products	30 Hughes St., #203, Irvine, CA 92618	(800) 5000-MAC	www.powerbook1.com	93
McGraw Publishing Peripherals	49 Hastings, Laguna Niguel, CA 92677	(800) 883-9697	www.sittingmachine.com	101
MegaMacs.com	4131 South Sheridan Road, Tulsa, OK 74145	(918) 664-MEGA	www.megamacs.com	99
MicroMat Computer Services	8868 Lakewood Drive, Suite 273, Windsor, CA 95492	(800) 829-6227	www.micromat.com	ibc
Microsoft	One Microsoft Way, Redmond, WA 98052	(425)882-8080	www.microsoft.com/mac	ifc, 1
MindChimes	119 Esperanza Ave., Sierra Madre, CA 91024	info@mindchimes.com	www.MindChimes.com	15, 100
Orange Micro, Inc.	1400 Lakeview Ave., Anaheim, CA 92807	(714) 779-2772	www.orangemicro.com	97
Other World Computing	224 West Judd St., Woodstock, IL 60098	(800) 275-4576	www.macsales.com	86, 87
Power Max	6077A SW Lakeview Blvd., Lake Oswego, OR 97035	(800) 441-6922	www.powermax.com	94
PowerON Computer Services	8801 Washington Blvd. #101, Roseville, CA 95678	(800) 673-6227	www.poweron.com	96
REAL Software	3300 Bee Caves Road, Suite 650-220, Austin, TX 78746	(512) 263-1233	www.realsoftware.com	7
Adaptec	691 S. Milpitas Blvd., Milpitas, CA 95035	(408) 945-8600	www.adaptec.com	10, 11
Savant Interactive	4708 Main St., #201, Lisle, IL 60532			98
Shreve Systems	1200 Marshall St., Shreveport, LA 71101	(800) 227-3971	www.shrevesystems.com	95
Software Architects	19102 North Creek Parkway, Suite 101, Bothell WA 98011	(425) 487-0122	www.softarch.com	4
Sonnet Technologies	15 Whatney Irvine CA 92618	(800) 786-6260	www.sonnettech.com	25
Strydent Software	4664 Loughheed Hwy., Suite 188, Burnaby, BC V5C 6B7	(888) 428-2632	www.strydent.com	61
studioZee	500 5th Ave., Helena, MT 59601	(406) 495-0538	www.theZephIR.com	98
Symantec		(408) 253-9600	www.symantec.com	13
Thursby Software	5840 West Interstate 20, Ste. 160, Arlington, TX 76017	(817) 478-5070	www.thursby.com	9
Wacom Technologies	1311 SE Cardinal Court, Vancouver, WA 98683	(360) 896-9833	www.wacom.com	obc

Get an issue and CD-ROM of digitalFOTO — absolutely **FREE!**

To receive your **FREE**
issue and **FREE**
CD-ROM at no risk,
call us now at
1877 415 3686

If you're pleased with what you
see, we'll send you 11 more
issues and 11 more CD-ROMs
(12 in all) for only \$24.95.
That's a 74% savings off the
newsstand rate.

COMPATIBLE
WITH
MAC AND PC

**KEEP YOUR
HARD
DRIVE
SQUEAKY
CLEAN**

All the
tools
you need to keep
your hard drive
trouble-free.

WIN THE HOT NEW HP PHOTOSMART C618 CAMERA



digitalFOTO

THE FUTURE OF PHOTOGRAPHY

OCTOBER 2000

Perfect portraits

Make Yourself
(and your subject)
Look Good

DIGITAL DIARIES

The first digital
photography art book

MACRO MODE

Get up close –
we show you how

FINE ART

Make museum-quality
prints with your inkjet

OBJECT VR

Take your photos
for a spin

imagine
MEDIA WITH PASSION

\$7.99US \$8.99CAN 10>



Offer good in US only. Cover price is \$7.99.

Canada: US \$45, includes GST. Foreign: US \$58. Prepaid in US funds only. Please allow 6–8 weeks for delivery of first issue. 5YNJ1



ClubMac®

256MB FREE!*

On All Power Mac G4's

New! Titanium PowerBook G4

Up To **500MHz**
400MHz Starting at:
\$2595

256MB RAM FREE!*

*FREE 256MB Memory offer only valid on G4 PowerBooks listed in this ad. Requires \$30 installation fee. Offer expires 3/31/01

Part #	G4 Processor	Memory	FREE MEMORY	HD	Modem	DVD	Screen	Suggested Retail Price
A102 1892	400MHz	128MB	+256MB*	10GB	56k	Yes	15.2"	\$2595
A102 1893	500MHz	256MB	+256MB*	20GB	56k	Yes	15.2"	\$3495

New! Now Up To 733MHz!

466MHz Starting at:
\$1695

*FREE 256MB Memory offer only valid on G4 Power Mac's listed in this ad. Requires \$30 installation fee. Offer expires 3/31/01



Part #	G4 Processor	Base Memory	Hard Disk	Optical Drive	Graphics Card	Suggested Retail Price
A102 1886	466MHz	128MB	30GB	CD-RW	ATI Rage 128	\$1695*
A102 1887	533MHz	128MB	40GB	CD-RW	NVIDIA GeForce2 MX	\$2195*
A102 1890	667MHz	256MB	60GB	CD-RW	NVIDIA GeForce2 MX	\$2795*
A102 1891	733MHz	256MB	60GB	DVD-R/CD-RW	NVIDIA GeForce2 MX	\$3495*

Upgrade your Mac!

Great Deals on Memory

256MB Module

(PC 100 Memory)

only **\$149**

128MB only **\$79**

*512MB only **\$545**

for PowerMac G4
Dual/500/450/400
G4 Cube/G3 Blue & White
iMac DV 500/450/400/350

*Sawtooth model only

PRINTERS

hp HEWLETT PACKARD

Deskjet 932C

HP	
HP Deskjet 970CSE InkJet	\$299 ⁹⁵
HP Deskjet 350CBI Portable Mac	\$329 ⁹⁵
HP Deskjet 842C	\$149 ⁹⁹
HP Deskjet 1220Cse 11"x17"	\$499 ⁹⁹
HP Deskjet 952C	\$249 ⁹⁹

EPSON

Stylus 8 Cube

2880

Epson

Stylus 980 2880dpi Inkjet USB	\$199*
Stylus 980N 2880dpi Inkjet w/ENET	\$449
Stylus 880 2880dpi Color Ink Jet USB	\$149
Stylus 777 2880dpi Inkjet USB	\$99
Stylus Photo 2000P USB 6-Color Photo Printer	\$899
Stylus Photo 870 6-Color Photo Printer	\$249
EPL-5700i Laser Printer 8ppm USB	\$349*

*After \$50 Mail-in Rebate. Ends 3/31/01

MONITORS

Apple® Studio Display



17" Diamondtron CRT (16" visible)	\$499
•25 Dot Pitch	
•Max Res. 1600x1200@85Hz	

NEC/MITSUBISHI Diamond Pro 920



AccuSync AS50 15/13.8" 28mm, 1024x768@70Hz	\$159
FE700+ 17/16" 25AGP 1280x1024@66Hz Black	\$269
Diamond Plus 73 17/16" 25AGP 1280x1024@60Hz	\$279
AccuSync AS90 19/18" 26mm, 1600x1280@76Hz	\$319
Diamond Plus 200 22/20" 24mm, 1800x1440@72Hz	\$949
Diamond Pro 2060u 22/20" 24mm, 2048x1536@75Hz	\$979

Viewsonic

EF70 17/16" 25AGP 1280x1024@60Hz	\$279
PF790 19/18" 25AGP 1600x1200@60Hz	\$459
GS815 21/20" 25mm 1600x1200@95Hz	\$849
P220f 22/20" 25-27mm 1600x1200@77Hz	\$859

Apple	
17" Studio Display (M77702M/A)	\$499
15" Flat Panel Display (M79282M/A)	\$799
Sony	
E100 15/14" 24-25AGP 1280x1024@60Hz	\$198
E210 17/16" 24-25AGP 1600x1200@60Hz	\$339
E400 19/18" 24-25AGP 1800x1440@60Hz	\$489
E500 21/19.8" 24AGP 2048x1536@65Hz	\$869
G520 21/19.8" 24AGP 2048x1536@75Hz	\$969
F500R 21/19.8" 22AGP 2048x1536@75Hz	\$1799
FW900 24/22.5" 23-27AGP 2304x1440@80Hz	\$2429

MICROTEK ScanMaker X12USL



Microtek	
ScanMaker 4700, 42bit, Mac/PC	\$199
ScanMaker V6USL, 42bit 8.5x14, USB	\$129
ScanMaker 5700, 42bit Dual Format FireWire/USB	\$449
ScanMaker 8700, 42bit Dual Format	\$999

Epson

Perfection 1640su, 42bit, 2400dpi, USB	\$299
Perfection 1640su Photo w/Tns.Adapter	\$399

UMAX Powerlook 2100XL



Umax	
Astra 6400, 42bit FireWire w/Tns. Cover	\$199*
Astra 3400 42bit USB w/Tns. Adapter	\$79
Powerlook III 42bit USB w/Tns.Adp. Full Photoshop	\$999
Powerlook 1100 Duo FireWire w/Full Photoshop	\$1199

*After \$50 Mail-in Rebate. Ends 3/31/01

Agfa

Arcus 1200 42bit Multi Plate	\$799
SnapScan E50 42bit w/Tns. Adapter	\$179

PROCESSOR UPGRADES

SONNET SIMPLY FAST

Crescendo G3/PCI 400MHz	\$199
Crescendo G3/PCI 500MHz	\$399
Crescendo G4/PCI 450MHz	\$499
Crescendo G3/7200 400MHz	\$299
Crescendo G4/7200 400MHz	\$499
Encore G3/ZIF 500MHz	\$399
Encore G4/ZIF 500MHz	\$499

XL23

MACH Speed G3z 500MHz	\$499
MACH Carrier G4 400MHz PCI	\$549
MACH Carrier G3 500MHz PCI	\$579
MACH Carrier Dual G4 PCI 400MHz	\$1099
MACH Carrier Dual G4 PCI 450MHz	\$1189
MACH Velocity Dual G4 ZIF 400MHz	\$1049
MACH Velocity Dual G4 ZIF 500MHz	\$1449

APPLE BRANDED PRODUCTS are not returnable. If you experience problems with your Apple purchase contact Apple at 1-800-SOS-APPLE. WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. MONEY BACK GUARANTEE: All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. RETURNS: Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

CALL 1-800-217-9208 FOR A FREE CATALOG

Visit www.clubmac.com/storage
For More Products

STORAGE DEVICES

FireWire CDRW
12x10x32x



Only
\$299

C104 5530

BURN-Proof™

*Burn-Proof is a licensed technology of
Sanyo Electronic Ltd.

The ClubMac FireWire CDRW drive offers you speed, convenience and reliability all at a great price. Fast 12x writing, 10x re-writing and 32x read make this drive ideal for archiving and exchanging all types of data including MP3s!

FEATURES

- 12X Write
- 10X Re-Write
- 32X Read
- Tray Loading
- One Year Warranty

FireWire Drives Capacities Up To 75GB!!



As Low As
\$189

Includes Formatting &
Partitioning Software



SCSI CDRW

ClubMac New!

12X/10X/32X SPEED!

\$339

SCSI



C104 4029

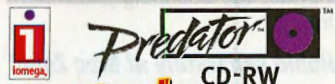
ClubMac SCSI CDRW's include 25/50 SCSI Cable, Power Cord, Terminator, One Blank Disc and CD authoring software.

FEATURES

- 12X Write
- 10X Re-Write
- 32X Read
- 160ms Avg. Access Time
- Up to 2400K Read Speed
- 2MB Data Buffer

C104 5501	CM FireWire HD 10GB	\$189
C104 5503	CM FireWire HD 20GB	\$219
C104 5506	CM FireWire HD 30GB	\$239
C104 5507	CM FireWire HD 45GB	\$279
C104 5508	CM FireWire HD 60GB	\$369
C104 5509	CM FireWire HD 75GB	\$519

IOMEGA



New!

CD-RW

\$269⁹⁵

USB
* 8x/4x/32x with USB 2.0
* 4x/4x/6x with USB 1.0

I044 I050

USB 250 ZIP
USB Powered

\$174⁹⁵



I044 I051

Single cable for data & Power

HARD DRIVES

MEDIA

SCSI
Also Available in external

Quantum	9.1GB	10k II	10000rpm	\$239/\$339
	18.3GB	10k II	10000rpm	\$319/\$419
	36.7GB	10k II	10000rpm	\$549/\$649

Seagate
Int./Ext.

	18.4GB	Cheetah	10000rpm	\$329/\$429
	36.7GB	Cheetah	10000rpm	\$565/\$665
	73.4GB	Cheetah	10000rpm	\$1045/\$1145

ATA/IDE
Quantum

	10GB	Fireball AS7200rpm	\$99
	20GB	Fireball AS7200rpm	\$115
	30GB	Fireball AS7200rpm	\$129
	40GB	Fireball AS7200rpm	\$159

IBM
30GB Deskstar 75GXP

	30GB	Deskstar 75GXP	\$165
	45GB	Deskstar 75GXP	\$189
	60GB	Deskstar 75GXP	\$319
	75GB	Deskstar 75GXP	\$429

TDK
12x80 Minute

	700MB	20 pack with sleeves	\$16 ⁹⁹
	650MB	100 pack	\$69 ⁹⁵

maxell
8x 74 Minute

	650MB	CDR Media	As low as \$1.59 ea
	650MB	CDR Media	As low as \$2 ⁹⁹

Verbatim
74 Minute

	650MB	CDR Media	As low as \$2 ⁹⁹
	650MB	CDR Media	As low as \$2 ⁹⁹

NEW Low Price!
G4 Cube 450MHz

\$1295*

Includes iMovie 2

FREE!
128MB RAM
\$79 Value

450Mhz

\$1295*

A102 1852 450MHz/64MB RAM/20GB HD/RAGE
128/10-100BASE-T Ethernet/56k modem

*\$30 installation fee applies. Offer only valid for G4 Cube on this page. Offer expires 2/28/01.



New! iBooks
466MHz
Starting At

\$1495

FREE*
64MB

366MHz iBook/64MB RAM/10GB HD/24x CD-ROM.
A102 1859 Indigo A102 1867 Keylime
466MHz iBook/64MB RAM/10GB HD/DVD-ROM/56k modem.
A102 1860 Graphite A102 1868 Keylime

*\$30 installation fee. Applies on all iBook Memory Offers. Expires 2/28/01. Offer valid on all iBooks listed on this page.



Call For More Details!

New iMacs?

SOURCE CODE 62041

ClubMac®

ORDER TODAY! 24 HOURS A DAY
7 DAYS A WEEK

1-800-217-9208

ORDER ON-LINE

WWW.CLUBMAC.COM

Sales
24 Hours a Day, 7 Days a Week (800) 217-9208
Customer Service
M-F 9am-7pm, Sat. 8-12 Noon PST (800) 551-6398
Inquiries & International Sales
24 Hours a Day, 7 Days a Week (949) 768-8130

24-Hour Fax (949) 768-9354
Corporate/Educational Sales
M-F 9am-6pm PST (800) 258-2621
Technical Support
M-F 9am-6pm PST (800) 854-6227

E-Mail: ClubMac Sales...cmsales@clubmac.com
Customer Service...custsvc@clubmac.com
Technical Support...techsup@clubmac.com
Mail: ClubMac...7 Hammond, Irvine, CA 92618

NO SURCHARGE





a division of **Zones.com**

Up to 128MB

*On select iMacs and iBooks



Apple® iMac™ The "i" still means "Internet"

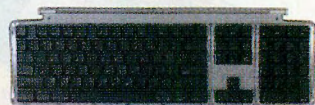
Starting At Only

\$794⁹⁸

The easiest route to the Internet, the iMac delivers blazing speed, gets you online in under 10 minutes, and includes a full-sized keyboard and optical mouse for optimum navigation. Want to play MP3 files? Your favorite music comes through loud and clear on the Harman Kardon Odyssey audio system that ships with every new iMac. You'll marvel at the rich, deep bass – and at the fact that you get sound this good with even the most affordable iMac. The one thing you won't hear is a fan.

Now available separately at Mac Zone!

Apple Pro Optical Mouse #124979 \$59.99*



Apple Pro Keyboard #124980 \$59.99*

*FREE with new iMacs. Now available separately for iBooks, PowerBooks, and other USB-equipped Macs!

	iMac	iMac DV	iMac DV+	iMac SE
Processor	350MHz	400MHz	450MHz	500MHz
Hard Drive	7GB	10GB	20GB	30GB
RAM	64MB	64MB	64MB	128MB
Optical Drive	CD	CD	DVD	DVD
FireWire	No	2 Ports	2 Ports	2 Ports
iMovie 2	No	Yes	Yes	Yes



\$794⁹⁸

Indigo #124912

\$994⁹⁸

Indigo #124913
Ruby #124914

\$1294⁹⁷

Indigo #124915
Ruby #124916
Sage #124917

\$1494⁹⁸

Graphite #124918
Snow #124919

Business Leasing Available.
Call 1-800-304-0286 for details.

Upgrade Your iMac or iBook



For iMac 350/400MHz		
#674339	64MB	\$34.99*
#123842	128MB	\$59.99*
#715574	256MB	\$129.99†
For iBook		
#715586	64MB	\$39.99

*After \$10 mail-in rebate. Low Zone price: \$44.99. †After \$15 mail-in rebate. Low Zone price: \$74.99. ‡After \$20 mail-in rebate. Low Zone price: \$149.99. Offer expires 2/28/01.



CD Burning was never easier or better looking
Iomega Predator USB CD-RW Drive
#119722 \$269.99



Award-winning satellite speakers and subwoofer
Harman Kardon SoundSticks (3-Piece Audio System)
#127797 \$199.99



Add a convenient, 1.4MB floppy drive to your iMac
VST USB Floppy Drive with Mac Color Kit
#112789 \$79.99



More bang for the buck than any other Mac inkjet – 2400 x 1200 dpi in black and color
Lexmark Z52 Color JetPrinter
#119554 \$179.99



Upgrade to full size mouse and keyboard
Macally iKey 104-Key Extended USB Keyboard (Graphite) & iSweetNet Two-Button USB Programmable scrolling Mouse for Mac
#117675 \$49.99

\$99 Value!



Credit cards are not charged until the order is shipped. Most products ship the same day (barring system failure, etc.). Shipping options include Ground, 2nd Day and Overnight delivery. Freight is based on average product weight. Handling extra. Insurance available. Special orders may require special shipping and handling charges. Call for international shipping rates. Prices and product availability subject to change without notice. Specials and promotions may be limited to stock on hand. Not responsible for typographical errors. All products sold by Multiple Zones Inc. (MZI) are third party products and are subject to the warranties & representations of the applicable manufacturers, including but not limited to Y2K compliance. Accordingly, MZI makes no representation or warranty with respect to Y2K compliance of product sold. ©2001 Multiple Zones Inc. All rights reserved. Unauthorized duplication is a violation of applicable laws. Apple®, the Apple logo, Macintosh® and PowerBook® are registered trademarks of the Apple Computer, Inc.

FREE Memory*

Mac Zone® By Phone!

Friendly people. Apple certified advice.
Our people make the difference!
1-800-304-0286



Apple® iBook™

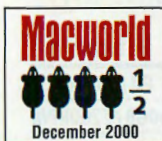
Starting At
\$1494⁹⁸

iBooks come with more great features than ever, including more room on the hard drive, more RAM capacity, greater CPU speed and a high-speed graphics card. With the FireWire port you can connect a FireWire-equipped DV camcorder and use iMovie 2, Apple's easy-to-use digital video editing software to add special effects to home movies. As always, the iBook's convenient, foldaway handle makes it easy to take along. And with up to 6 hours between charges to its lithium-ion battery, iBook is perfect for a full day on the road, in class, or watching a feature-length movie on DVD.

Go wireless



Base Station #115919 **\$294.98**
AirPort Card #115920 **\$99.98**



iBook



iBook SE

Processor	366MHz	466MHz
Hard Drive	10GB	10GB
RAM	64MB	64MB
Optical Drive	CD	DVD
FireWire/USB	1 Port ea.	1 Port ea.
AirPort Ready	Yes	Yes
Ethernet	10/100BT	10/100BT
Modem	56K	56K



\$1494⁹⁸

Indigo #124939
Key Lime #124977

\$1794⁹⁸

Graphite #124940
Key Lime #124978



Business Leasing Available. Call 1-800-304-0286 for details.



FREE Up To 128MB MEMORY!

with select iMac or iBook purchase.

Call or visit maczone.com for the latest promotion.

SAVE \$30!

on Quicken 2001 Deluxe
when you purchase TurboTax Deluxe



#127143 • **\$49⁹⁹**

*After \$30 mfr. mail-in rebate with proof of purchase of TurboTax Deluxe for Mac. Offer good through 4/15/01.



ONLY \$59⁹⁸

- \$30 REBATE

\$29⁹⁸*

After Rebate

#727334



You're an anti-terrorist agent on a quest to track a conspiracy to the top

Aspyr Deus Ex
#701823 **\$39.99**



Return to a world of dark fantasy as the struggle against evil continues

Diablo II from Blizzard
#117284 **\$54.98**



Materialize in the Star Trek Voyager Universe
Activision Star Trek Voyager Elite Force
#741352 **\$49.99**



Turn your Mac into a thrill-packed PlayStation
Connectix Virtual Game Station 1.4
#700657 **\$44.98**



A workstation for all your mobile computing
Targus Backpack in Yellow
#117678 **\$69.99**



Amazing color output in iMazing colors
Epson Stylus Color 777i Inkjet Printer
#124636 **\$99.99**



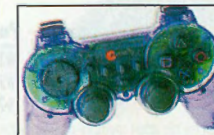
Fits in your pocket
Canon S100 ELPH 2.1 mp Digital Camera
#117017 **\$499.99**



Ultra-compact DV camcorder
Canon Elura 2
#124367 **\$1299.99**
Call for Price



Free your gaming from the confines of the desktop
Macally Motion Sensing Mid-Air USB Joystick
#662246 **\$34.99**



Works great with Playstation games
Mace Group iShock USB Programmable Gamepad
#106162 **\$29.99**

Corporate bids welcome!
Fax to 1-425-430-3420

A NASDAQ® COMPANY Ticker Symbol: MZON

Source Code
MA041

Order by Phone Today
1.800.304.0286

Order Online
maczone.com

NEW! 733MHz PowerMacs



Media sold separately

Starting At Only

\$1694⁹⁸

**\$200
Price Drop!**



*The ultimate
flat-screen display!*
Apple Studio
15" Display
#124924 \$794.98

Apple® Power Mac™ G4

POWER TO BURN!

- Up to 733MHz PowerPC G4
- Up to 256MB SDRAM memory
- Up to 60GB Ultra ATA drive
- SuperDrive (DVD-R/CD-RW)
- Gigabit Ethernet
- 56K internal modem
- Up to 256K L2 & 1MB L3 cache
- NVIDIA GeForce2 MX Graphics Card

Apple has completely redesigned the new Power Macs for up to 57% greater performance than that of a 1.5GHz Pentium 4. A host of high-performance hardware, including the 4X AGP graphics bus, on-die L2 cache running at processor speed, new backside level 3 cache, huge hard drives and much more help provide the speed advantage. Apple has also included four 215-Mbps PCI slots, a CD-RW drive in three of the Power Macs and a first-of-its-kind hybrid CD-RW/DVD-R SuperDrive in the 733MHz G4.



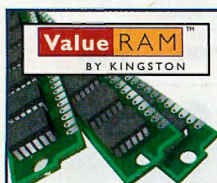
	Fast	Faster	Faster Yet	Ultimate
Processor	G4/466MHz	G4/533MHz	G4/667MHz	G4/733MHz
Hard Drive	30GB/5400RPM	40GB/7200RPM	60GB/7200RPM	60GB/7200RPM
RAM	128MB	128MB	256MB	256MB
Optical Drive	CD-RW	CD-RW	CD-RW	SuperDrive CD-RW/DVD-R
Graphics Card	ATI RAGE Pro 128/16MB	NVIDIA GeForce2 MX/32MB	NVIDIA GeForce2 MX/32MB	NVIDIA GeForce2 MX/32MB
FireWire/USB	2 Ports ea.	2 Ports ea.	2 Ports ea.	2 Ports ea.
Ethernet	Gigabit	Gigabit	Gigabit	Gigabit
Cache	1MB L2	1MB L2	256k L2 1MB L3	256k L2 1MB L3
	\$1694⁹⁸ #130736	\$2194⁹⁸ #130735	\$2794⁹⁸ #130734	\$3494⁹⁸ #130733



**While
supplies
last**



Power Mac Blowout!



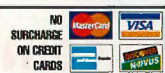
Upgrade Your PowerMac

Power Mac	G4 400, 450, 500
#123842	128MB \$49.99*
#715574	256MB \$99.99**
#715783	512MB \$399.99†

Call for the latest memory prices! *After \$50 mfr. mail-in rebate. Low Zone price: \$99.99. **After \$50 mfr. mail-in rebate. Low Zone price: \$149.99. †After \$50 mfr. mail-in rebate. Low Zone price: \$449.99.

	G4	G4 Dual	G4 Dual	Cube
Processor	400MHz	450MHz	500MHz	450MHz
Hard Drive	20GB	30GB	40GB	20GB
RAM	64MB	128MB	256MB	64MB
Optical Drive	DVD	DVD	DVD	DVD
Now Only	\$1294⁹⁸ #124920	\$1994⁹⁸ #124921	\$2394⁹⁸ #740288	\$1494⁹⁸ #124926

Business Lease Available: 36-month, fair-market value lease based on approved credit. Other leasing options available. Leases require a minimum order of \$1000. Call 1-800-436-0606 for details.



Credit cards are not charged until the order is shipped. Most products ship the same day (barring system failure, etc.). Shipping options include Ground, 2nd Day and Overnight delivery. Freight is based on average product weight. Handling extra. Insurance available. Special orders may require special shipping and handling charges. Call for international shipping rates. Prices and product availability subject to change without notice. Specials and promotions may be limited to stock on hand. Not responsible for typographical errors. All products sold by Multiple Zones Inc. (MZI) are third party products and are subject to the warranties & representations of the applicable manufacturers, including but not limited to Y2K compliance. Accordingly, MZI makes no representation or warranty with respect to Y2K compliance of product sold. ©2001 Multiple Zones Inc. All rights reserved. Unauthorized duplication is a violation of applicable laws. Apple®, the Apple logo, Macintosh® and PowerBook® are registered trademarks of the Apple Computer, Inc.

NEW! Titanium PowerBook G4s

Mac Zone®
By Phone!
 Friendly people. Apple certified advice.
 Our people make the difference!
 1-800-304-0286



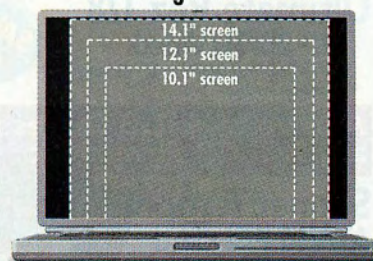
Starting At Only
\$2594⁹⁸

Apple® PowerBook® G4

- Up to 500MHz PowerPC G4
- Up to 256MB SDRAM
- Up to 30GB Ultra ATA drive
- DVD-ROM Drive
- 1MB L2 cache
- ATI Rage Mobility 128
- 10/100BASE-T Ethernet
- 56K internal modem
- Two USB ports
- One FireWire port

Made of titanium, one of the lightest and most durable metals on the planet, the PowerBook G4 offers a full complement of powerful features – including such notebook firsts as a slot-loading DVD-ROM drive – and has room for a full gigabyte of RAM. Yet it weighs only 5.3 pounds and measures only one inch thin!

15.2" mega-wide screen



	Fast	Faster	Fastest
Processor	G3/400MHz	G4/400MHz	G4/500MHz
Hard Drive	10GB	10GB	20GB
RAM	64MB	128MB	256MB
Optical Drive	DVD	DVD	DVD
TFT Screen	14.1"	15.2"	15.2"
Graphics Card	8MB ATI RAGE Mobility 128	8MB ATI RAGE Mobility 128	8MB ATI RAGE Mobility 128
FireWire	2 Ports	1 Port	1 Port
Video Ports	VGA/S-video	VGA/S-video	VGA/S-video
Ethernet	10/100	10/100	10/100
Backside Cache	1MB L2	1MB L2	1MB L2

AppleCare
 \$329⁹⁸ PowerBook Protection Plan
 #722604

\$1994⁹⁸
 #124941

\$2594⁹⁸
 #130731

\$3494⁹⁸
 #130730

Cutting-edge post production studio in-a-box!

Apple Studio
 Final Cut Pro 1.2
 #104885 \$999.99

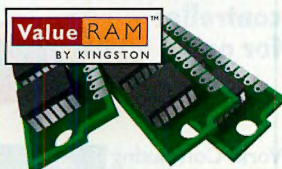
NEW Version!

Mac OS 9.1
\$10 Instant Savings!
 Mac OS 9.1
 #130754 \$89.97*

*Introductory pricing.
 Low Zone price \$99.97

Up To **FREE 256MB MEMORY!**
 with select Apple computer purchase. Call to place your order. Offers subject to change. While supplies last.

Upgrade Your PowerBook



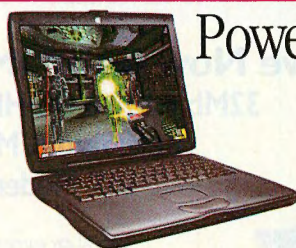
For PowerBook G3 400/500

#116659	128MB	\$69.99
#116022	256MB	\$299.99
#116023	512MB	\$599.99

For PowerBook G4 400/500

#126723	128MB	\$99.98
#122597	256MB	\$249.98

PowerBook Clearance!



PowerBook G3/400MHz

While supplies last!

\$1994⁹⁸
 Now Only #124941

G3/400MHz • 64MB memory
 10GB hard drive • 14.1" TFT screen

Corporate bids welcome!
 Fax to 1-425-430-3420

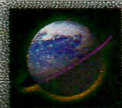
Source Code
MA041

Order by Phone Today
1.800.304.0286

Order Online
maczone.com

A NASDAQ® COMPANY Ticker Symbol: MZON

OPEN MON.- FRI.: 8:30AM- 8:00PM & SAT.: 10AM-4 PM CST



other World Computing

SERVING THE MAC UNIVERSE SINCE 1988



800-275-4576



EXCELLENT SERVICE

COMPETITIVE PRICES

QUALITY PRODUCTS

WEEKLY EMAIL SPECIALS!

SPECIALS



Now hook up another monitor* for only

Video Card SPECIAL!

\$39.95

ixMicro Ultimate Rez I28
PCI 2D/3D Video
With 8mb VRam and 1 year Warranty
*monitor not included!



Add up to 4 IDE Drives to any PCI G3 PowerMac

Sonnet Tempo ATA/66 PCI Card

Connect up to 4 IDE Hard Drives to your system.

Fast- Up to 66mb/s!

Easy- Just plug and play!

Affordable- 30gb IDE only \$139!

Includes 12" IDE Cable and 3 Year Warranty.

\$99.95



FIREWIRE

Let Your legacy Mac use FireWire today!



PCI FireWire Cards

MacAllly 3-Port FireWire 2-Port USB Combo Card **\$97.95**

Orange Micro USB+FireWire Card **\$129.95**

Orange Micro 2-Port FireWire Card **\$68.95**

OWC FireWire Hard Drives

OWC Mercury FireWire Drives feature quality design with the fastest FireWire bridge available.

OWC Mercury FireWire Drives

5400 RPM 9-9.5ms Access Time w/Cables & Software

30GB **\$259.95** 40GB **\$299.95**

60GB **\$334.95** 80GB **\$399.95**

OWC MercuryPro FireWire Drives

7200 RPM <9.5ms Access Time w/Cables & Software

30GB **\$289.95** 45GB **\$309.95**

60GB **\$379.95** 75GB **\$499.95**

OWC External FireWire Drive Case
3.5"/5.25" Universal **\$159**



Accepts any standard IDE 3.5" Drive and Includes FireWire Cable, power cord, and driver software.



MacOS X Compatible



FireWire



FireWire

Cables, Software and 3-Year Warranty Included!



OWC FireWire SPECIAL

Buy any OWC Mercury FireWire Product and get a PCI FireWire 2 Port IEEE1394 controller for only **\$54.95**

btomacs.com

BUILD TO ORDER MACS



Let OWC Build the Perfect Mac For You!

Check Out www.btomacs.com



CD / CDR / DVD

CD-Rom Drives in stock from only: **\$17.50**

CD-RW Drives in stock from only: **\$129.95**

DVD Drives in stock from: **\$99.95**

Visit our website or call for our full line!

Yamaha SCSI CD-RW 8x Recordable / 8x Re-Writable / 24x Read Only **\$249.00** int. / **\$297.99** ext.

External Version includes Toast 4.1.x, Power & SCSI Cable - Complete Kit

Yamaha IDE CD-RW 8x Recordable / 4x Re-Writable / 24x Read with Adaptec Toast **\$169.95**

Yamaha IDE CD-RW 16x Recordable / 10x Re-Writable / 32x Read Int. retail Kit with software **\$299.95**

OWC Mercury Yamaha FireWire CD-RW

8x/4x24x External Solution w/Toast 4.1 **\$299.95** ext.

FireWire Ext. includes Toast 4.1.x, Power & FireWire Cables - Complete Kit

LAPTOP DRIVES

PowerBook Hard Drives

for iBook, G4 Titanium, PowerBook G3, i1400/5300/190/150 Duo 2300/2400

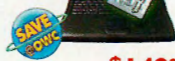
10.1GB IBM Toshiba 9.5mm 4200 RPM **\$149.95**

20.0GB Toshiba 9.5mm 4200 RPM **\$209.95**

20.0GB IBM Travelstar 9.5mm 4200 RPM **\$217.99**

32.0GB IBM TravelstarGT 5400 RPM 24mb Cache **\$479.95**

** some computers require slim model 2.5" Drives



SAVE @ OWC



OPEN MON.-FRI.: 8:30AM-8:00PM & SAT.: 10AM-4 PM CST

other World computing

SERVING THE MAC UNIVERSE SINCE 1988



800-275-4576

**FAST
EASY &
SECURE!**

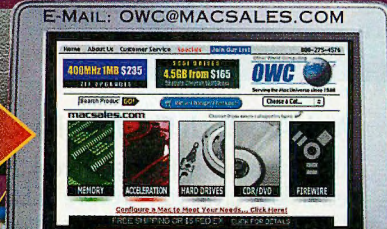
EXCELLENT SERVICE / COMPETITIVE PRICES / QUALITY PRODUCTS / WEEKLY EMAIL SPECIALS!

OWC

**YOUR SOURCE FOR
Memory, Hard Drives
and Upgrades**



E-MAIL: OWC@MACSALES.COM



OnLine Orders
\$5.00*
FedEx
Ship FedEx

**SAVE
@OWC**

LEGACY MAC MEMORY

168 PIN DIMM		72PIN SIMM	
2k Refresh 70 or 60ns (specify)		2k Refresh 60ns	
5V	EDO 5V		
8MB	\$84 ⁹⁵	N/A	
16MB	\$29 ⁹⁹	N/A	
32MB	\$54 ⁹⁹	\$64 ⁹⁹	
64MB	\$104 ⁹⁹	\$109 ⁹⁵	
128MB	\$149 ⁹⁹	\$149 ⁹⁹	

Call for current RAM Prices 1-800-275-4576

30PIN SIMM 4 MB \$12
Works with legacy Macs like the IIs, Quadra, SE30, Classic, etc.

**SAVE
@OWC**

Mac Video RAM

256k PMac 7100/Quadra800/650	\$19 ⁹⁵
512k PMac 8100/Quadra's/LC's	\$22 ⁷⁵
1MEG PMac 72/73/75/76/85/8600 & Compat.	\$28 ⁹⁵
4 MEG G3 Video SGRAM	\$13 ⁹⁵

STORAGE SPECIALS



**4.3GB Seagate
Barracuda**

True 50-pin Narrow Hard Drive

Seagate

Internal: **\$89⁹⁵**

External: **\$159⁹⁵**

External includes SCSI cable, power cable, terminator and formatting software.

18.2GB Fujitsu 7200rpm 7.5MS 3.5"
UltraSCSI w/50 pin Int. **\$199⁹⁵** | Ext. **\$269⁹⁵**

46.1GB IBM DeskStar 75GXP 7200rpm 2048K
Cache ATA/100 IDE w/3 yr. warranty **\$179⁹⁵**

61.4GB IBM DeskStar GXP 7200rpm
ATA/100 IDE **\$279⁹⁵**

81.9GB Maxtor DiamondMax 5400rpm
ATA/100 IDE **\$299⁹⁵**

See our website or call for full line of IDE and SCSI Hard Drives

iMAC UPGRADES

iMac Upgrade Bundle Save \$34.95!

NewerTech

iMaxPower

G3/466MHz

AND

GameWizard Voodoo2

8MB Video Card for iMac

for Rev.A & B 233MHz/266MHz computers only.

*Price after \$150 NewerTech Rebate

newer technology

MacOS X Compatible

\$399⁹⁵*

Game Wizard Voodoo II 8Mb Video Card...\$84⁹⁵

Add real gaming power to any Rev.A or Rev.B 233/266mhz iMac.

G3/G4 Upgrades for iMac 233/266/333MHz

newer technology

MacOS X Compatible

NewerTech iMaxPower

G3/466MHz with 1024K Cache - **\$349***

G4/433MHz with 1024K Cache - **\$549***

*Price after \$150 NewerTech Rebate

G3/G4 UPGRADES

ZIF Your Mac Into High Gear!



**ZIF Upgrades for G3 Beige,
G3/Blue & Whites,
& G4 'Yikes' PowerMacs.**

OWC Mercury

G3/333MHz Apple Motorola w/1024K Cache - **\$98⁹⁵**

G3/400MHz IBM Copper w/1024K Cache - **\$229**

MetaBox JoeCard

Zif G3/500MHz w/1024k Cache - **\$339⁹⁵**

Zif G4/400MHz w/1024k Cache - **\$339⁹⁵**

NewerTech newer technology

MaxPower Zif G4/400MHz w/1024k - **\$319⁹⁵**

XLR8 Zif CARRIER G3/G4 lets you use one of

the above processors or the one you have in a

7300/7500/7600/8500/8600/9500/9600s;

WGS 7350/8550/8650/9650;

PowerCenter/Wave/Tower;

UMax S900/J700Only: **\$119⁹⁵**

XLR8 Zif Carrier w/OWC Mercury 333MHz ZIF.....\$199⁹⁵

SPECIAL

G3/G4 Upgrade

PCI Cards for PowerMac

7300/7500/7600/8500/8600/9500/9600s;

WGS 7350/8550/8650/9650;

PowerCenter/Wave/Tower; UMax S900/J700

Sonnet Crescendo

G3/400MHz with 512k Cache - **\$198⁹⁵**

G3/500MHz with 1024k Cache - **\$395⁹⁷**

G4/450MHz with 1024k Cache - **\$494⁹⁵**

newer technology

NewerTech MaxPower

G3/400MHz w/1024K Cache - **\$299⁰⁰**

G3/500MHz w/1024K Cache - **\$389⁹⁵**

G4/400MHz w/1024K Cache - **\$377⁹⁵**

newer technology

MetaBox JoeCard

G3/400MHz w/1024K Cache - **\$254⁹⁵***

G3/500MHz w/1024K Cache - **\$349⁹⁵***

G4/400MHz w/1024K Cache - **\$349⁹⁵***

*Not compatible with PowerMac 9600/9650.

Visit <http://www.fasterMacs.com>

to see these and other upgrades available. OWC makes

it easy! Just select your computer model and our site

will display just the upgrades that are correct for you!

Other World Computing

FASTER MACS .COM

AD03-01

G3/G4 Upgrade Cards

for Nubus PowerMac

6100/7100/8100/8150/9150/

Radius; Performa 611X Series

newer technology

Sonnet Crescendo

G3/250MHz with 512K Cache - **\$198⁹⁵**

G3/300MHz with 1024K Cache - **\$249⁰⁰**

G4/270-360MHz with 1024K Cache - **\$495⁰⁰**

G3 Upgrade L2 Cache

Cards for PowerMac

5500/6360/6400/6500;

Umax C500/C600;

PowerComputing PowerBase

NewerTech MaxPower

G3/400MHz with 1024K **\$299⁰⁰**

Sonnet Banker

G3/350MHz with 1024k - **\$247⁵⁰**

G3/400MHz with 512k - **\$247⁵⁰**

G3/500MHz with 1024k - **\$589⁰⁰**

G3 Upgrades for PowerBook 1400 Series

Sonnet

G3/333MHz with 512K **\$295⁰⁰**

G3/400MHz with 1024K **\$395⁰⁰**

Other World Computing

224 West Judd St., Woodstock, IL 60098

International: (815) 338-8685

Fax: (815) 338-4332



Enjoy ultimate freedom

With APS Tech FireWire Plus, you don't have to choose.

APS Tech is proud to offer a breakthrough interface solution. FireWire Plus technology gives you FireWire (IEEE 1394) and USB support on one device, so you don't have to choose between interfaces. Delivering cross-platform, dual support and automatic configuration, FireWire Plus is the ultimate, universal connectivity solution. Look for APS Tech FireWire Plus products in this ad and order yours today.

Twice the burning desire

APS CD-RW 16x10x40 FireWire plus

- Speedy CD-RW drive with FireWire (IEEE 1394) and USB interfaces
- Hot-swappable for sharing among workstations

APS CD-RW FireWire plus Drives

Model	Price
APS CD-RW 8x4x32 FireWire Plus Pro2	\$249.95
APS CD-RW 12x10x32 FireWire Plus Pro2	299.95
APS CD-RW 16x10x40 FireWire Plus Pro2	329.95



\$199.95
APS Pro2

APS CD-RW 4x4x32 USB

- Convenient USB interface, perfect for iMacs, G3s, G4s, other USB computers
- Hot-swappable to switch among workstations
- Winner, MacAddict "Spiffy!" Award, July 2000

APS CD-RW SCSI Drives

Model	Price
APS CD-RW 16x10x40 SCSI Pro2	\$329.95



\$329.95
APS Pro2

Storage at large



\$599.95
APS Pro2

APS 4.7GB DVD-RAM FireWire plus

- Rewritable DVD discs for archiving or digital video storage
- Back up 4.7GB (9.4GB compressed) with FireWire and USB interfaces

APS DVD-RAM Drives

Model	Price
APS 4.7GB DVD-RAM FireWire Plus Pro2	\$599.95
APS 4.7GB DVD-RAM SCSI Pro2	599.95



\$329.95
APS Pro2

APS 60GB FireWire plus Hard Drive

- Easiest connections ever – hot-swappable, no terminator or device ID
- Ideal for personal video storage and editing, large-scale imaging/graphics
- FireWire (IEEE 1394) and USB interfaces

APS FireWire plus Hard Drives

Model	APS Pro2
APS 20GB 7200 RPM FireWire Plus Hard Drive	\$229.95
APS 40GB 7200 RPM FireWire Plus Hard Drive	289.95
APS 60GB 7200 RPM FireWire Plus Hard Drive	329.95
APS 75GB 7200 RPM FireWire Plus Hard Drive	599.95

APS Ultra2 Wide / Ultra160 LVD SCSI Drives

Model	RPM	*Internal	APS Pro2
APS ST 18GB Ultra160 LVD	7200	\$289.95	\$359.95
APS ST 18GB Ultra160 LVD	10,000	349.95	419.95
APS ST 18GB Ultra160 LVD	15,000	479.95	549.95
APS ST 36GB Ultra160 LVD	7200	499.95	569.95
APS ST 36GB Ultra160 LVD	10,000	629.95	699.95
APS ST 73GB Ultra160 LVD	10,000	1,139.95	1,209.95

Drives listed above carry a five-year warranty.

APS Ultra SCSI Drives

Model	RPM	*Internal	APS Pro2
APS ST 18GB	7200	\$289.95	\$359.95
APS ST 36GB	7200	499.95	569.95

Drives listed above carry a five-year warranty.

* Internal configuration does not include a mounting bracket. Intended as a replacement internal SCSI drive.



\$179.95
APS Pro2

APS 20GB USB Hard Drive

- Ultimate combination of compatibility and convenience
- Hot-swappable, no SCSI or IDE setup hassles



Drives on these pages are covered by the APS 30-Day Money-Back Guarantee.

Visit our closeout page at:
www.apstech.com

Source Code: MAD0401

of choice: new FireWire® plus.

Unbeatable backup

APS HyperDAT® III FireWire

- Reliable DDS-3 technology with fast IEEE 1394 interface
- 12GB native backup for high-end workstations, entry-level networks

\$849.95

APS Pro2 case with Retrospect software for Mac and PC



APS AIT+ FireWire

- 35GB (native), 70GB (compressed) backup for video, 3-D graphics workstations
- Native SCSI adapted for FireWire



\$1,569.95

APS Pro2 case with Retrospect software for Mac and PC



Canon ZR10 Digital Video Camcorder

- 10X optical/200X digital zoom lens
- IEEE 1394 (FireWire) terminal
- Analog line-in for preserving originals, making copies
- Winner, Macworld Editors' Choice Award, 2000

\$799.95

(Call for current price)



Canon S100 ELPH Digital Camera

- Smallest 2X zoom camera from Canon
- Advanced Photo System, drop-in film loading
- Winner, Macworld Editors' Choice Award, 2000

\$499.95



Digital Video Camcorders*

Model	Price
Canon XL1	CALL
Canon GL1	CALL
Canon Optura Pi	CALL
Canon ZR10	\$799.95
Canon Elura2	CALL
Canon Elura2MC	CALL

Displays*

Model	Price
LaCie Monitors & Accessories	
LaCie electron19blue II	\$599.95
LaCie electron22blue II	1,099.95
LaCie photon18blue LCD	2,499.95
LaCie blue eye	499.95
Sony Monitors	
F-Series Monitor 21" Sony GDM-F500R	\$1,929.95
G-Series Monitor 19" Sony CPD-G400	589.95
G-Series Monitor 21" Sony CPD-G500	1,049.95
Sony LCD Displays	
Sony Multiscan CPD-M151 15"	\$999.95
Sony Multiscan CPD-L181A 18"	2,569.95

* These products are not covered by the APS 30-Day Money-Back Guarantee. Products are covered by their manufacturer's warranty.

Digital Cameras*

Model	Price
Canon PowerShot S100 ELPH	\$499.95
Sony Digital CyberShot DSC-S30	479.95
Sony Digital CyberShot DSC-S50	599.95
Sony Digital CyberShot DSC-S70	799.95
Sony MVC-FD73 Mavica	499.95
Sony MVC-FD85 Mavica	699.95
Sony MVC-FD90 Mavica	799.95
Sony MVC-FD95 Mavica	999.95

LaCie photon18blue

- Pivotal 18" landscape, portrait perspectives
- Wide angle viewing technology for accurate color without image distortion

\$2,499.95

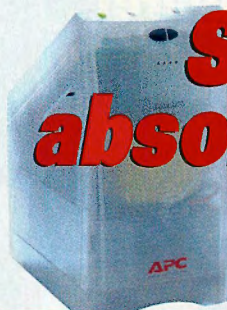


APS Tape Backup

Model	Price
APS HyperDAT® III (DDS-3) SCSI Pro2	\$749.95
APS HyperDAT® III (DDS-3) FireWire Pro2	849.95
APS HyperDAT® IV (DDS-4) LVD Pro2	999.95
APS DLT8000 LVD	3,699.95
APS AIT+ SCSI Pro2	1,479.95
APS AIT+ FireWire Pro2	1,569.95
APS AIT II LVD Pro2	3,299.95
APS AIT Autoloader Ultra Wide	2,999.95
APS AIT II Autoloader LVD	4,939.95
APS DDS-4 Autoloader LVD	3,499.95

Ships with Retrospect software for Mac and PC

Shock absorbers



Back-UPS Pro USB (B0500CLR)

Power Management

Model	Price
APC BackUPS Pro USB 350CU	\$149.95
APC BackUPS Pro USB 500CLR	179.95
APC BackUPS Pro USB 500CU	179.95
APC BackUPS Pro 280S	134.95
APC BackUPS Pro 420S	199.95
APC BackUPS Pro 650S	269.95
APC BackUPS Office 350	84.95
APC Surge Station Pro 8	32.95
APC Net 8 Surge Station	33.95

* These products are not covered by the APS 30-Day Money-Back Guarantee. Products are covered by their manufacturer's warranty.

Mac OS, FireWire and the FireWire logo are registered trademarks of Apple Computer, Inc. APS and APS Tech are registered trademarks. Other brand or product names are registered trademarks or trademarks of their respective holders.

- 30-day money-back satisfaction on all APS brand drives and accessories. Your risk is the cost of shipping. Monitors and 3rd party products carry warranties from their respective manufacturers.
- SCSI cables may be purchased separately.
- APS' warranty is a pass-through of the mechanism manufacturer's warranty which will be serviced by APS for one year. APS warrants APS branded enclosures, brackets and power supplies for a period of one year from the date of purchase and will, at its discretion, replace or repair products found to be defective according to the specific terms of the warranty accompanying the product.
- Refused orders subject to 20% restocking fee.

- International customers must pay for all shipping charges.
- Prices and specifications are subject to change without notice.
- Not responsible for typographical errors.
- Your APS Drive unit may contain one or more components that were in prior use, but which have been inspected and repaired or rebuilt as necessary. These components, if any are covered by the same warranty provisions, exclusions and limitations to the same extent, and on the same terms as otherwise "new" components.
- © 2001, APS Tech. All Rights Reserved.

Call 800-568-2891

Corporate Sales (800) 395-5871 • International (503) 844-4600
5am - 10pm, Monday - Friday, 6am - 8pm Saturday - Sunday, Pacific Time



Advanced tools for digital visionaries™

MacMall

Lowest Price Ever!

NEW in the Box!

Imagema 100MB USB Zip Drive

Small, sleek and Portable!

\$58⁹⁹

only #34314

USB



imagema

Everything and Anything for Your Mac and More!

MacMall EZ Payment Plan!

NEW! Payment terms up to 48 months!

Now you can have low fixed monthly payments on consumer purchases of \$750 or more with the new MacMall EZ Payment Plan. It's fast and easy to apply for, and there are no application fees or prepayment fees. Call your Account Executive today, or apply online! You can complete your purchase in just minutes—and have your order tomorrow!

Financing available on approved credit arranged through MBNA America Bank, N.A. Payment does not include shipping charges and sales taxes if applicable. Estimated monthly payment is based on approximate 48-month term at an Annual Percentage Rate (APR) of 14.99%. Your APR may be higher. There are no transaction fees for MacMall purchases billed directly to your account. There is a transaction fee of 3% of the U.S. Dollar amount of each advance check you write (\$5 min/\$30 max), but there is no obligation to use advance checks.

Hot Software!



Premiere 6.0

A stunningly simple & powerful professional video editing tool.

upgrade only

\$139⁹⁹

#955005

TurboTax Deluxe for Mac

The #1 best-selling and #1 rated tax software, from the makers of Quicken!

as low as **\$19⁹⁵**

#954861

With purchase of Symantec products. Call for details.



Retrospect SOHO

The most trusted and recommended backup software in the industry makes it easy. Includes Retrospect Desktop Backup and three Client licenses!

Only at MacMall! **\$129⁹⁹**

#956307

Norton SystemWorks

The smartest way to keep your Mac at its best. It features leading products for virus defense, problem-solving, backup, and uninstalls.

as low as **\$69⁹⁹**

#852776

After \$50 min. mail-in upgrade rebate.



MacMall Exclusive!

On New Apple G4 CPUs!



Apple has just announced the PowerBook G4—and redefined portable computing. With a titanium exterior, one of the lightest and most durable metals, the PowerBook G4 is just 1 inch thin and weighs only 5.3 pounds. Yet it offers powerful features, including notebook firsts such as a slot-loading DVD-ROM drive and a stunning 15.2-inch display.

All-Inclusive—big-screen theater, movie studio & music library!

Revolutionary design

- 1-inch-thin, 5.3-pound-light design enclosed in a durable titanium case
- 15.2-inch widescreen active-matrix display with 1152-by-768-pixel resolution in millions of colors
- Slot-loading DVD-ROM drive for playback of DVD-Video, DVD-ROM, DVD-RAM, and CD-ROM discs

Supercomputer performance

- Up to 500-MHz PowerPC G4 processor with Velocity Engine
- Up to 5 hours of run time
- Easy expandability through FireWire, USB, and PC Card slot



With its 15.2-inch mega-widescreen format and 1152x768-pixel resolution, this display is perfect for laying out your video or graphics projects, tools and palettes simultaneously, or for keeping multiple applications open while you work.



Titanium PowerBook G4

starting at

\$2594

#956566

Own this Titanium PowerBook G4 for as low as \$73/month with the New MacMall EZ Payment Plan!

Order	MHz	RAM	FREE RAM	TOTAL RAM	Hard Drive	DVD Drive	56K Modem	USB Ports	FireWire Ports	iMovie 2	iTunes	Price!	or as low as
#956566	400	128MB	128MB*	256MB	10GB	Yes	56K	Two	One	Yes	Yes	\$2,594	\$73/mo*
#956567	500	256MB	256MB*	512MB	20GB	Yes	56K	Two	One	Yes	Yes	\$3,494	\$98/mo*

*Professional installation fee of \$30 required for free RAM offer. Hurry! MacMall RAM promotion is a limited time offer.
**See sidebar for details on the new MacMall EZ Payment Plan.

Predator 8x4x32 FireWire CD-RW Drive

only **\$349⁹⁹**

#956172



Visor Deluxe Organizer Graphite

only **\$249**

#955289



Canon ZR10

only

\$699⁹⁵

#59847



Order Any Item in 4 Easy Steps

1. Go to www.macmall.com
2. Click on "Shopping Cart"
3. Enter part# in "Catalog Express"
4. Click on "Proceed to Checkout"

CATALOG EXPRESS

macmall.com 1-800-965-3282

up to 256MB Extra RAM FREE!

Loaded with features that let you make Desktop Movies, create your own music CDs and even author DVDs!



New Features of the Latest Power Macs:

- Faster, 133-MHz system bus
- Speedier, 133-MHz memory chips.
- CD-RW or breakthrough DVD-R/CD-RW Superdrive (733MHz model only)
- New audio system • 4 PCI slots
- New NVIDIA graphics cards on the three faster models
- New iDVD software (733MHz model only)
- Mac OS X ready

Technical Specifications

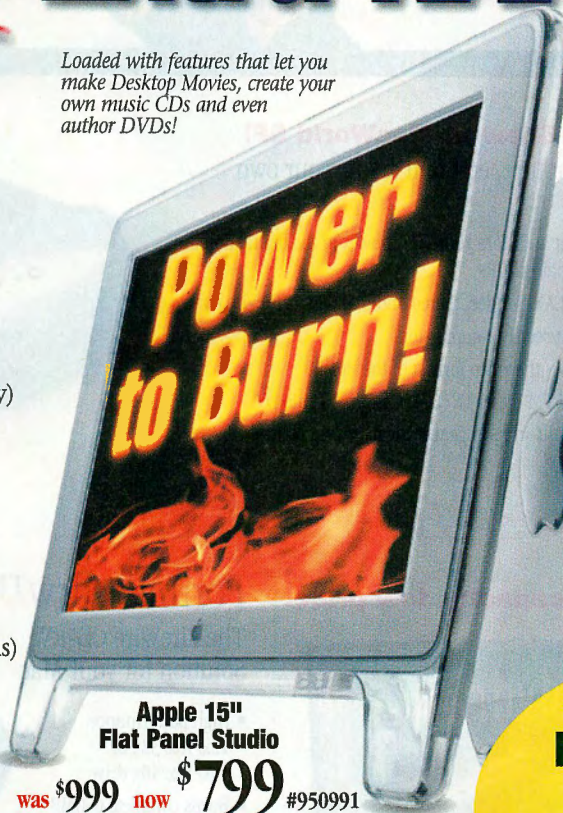
- Up to 733MHz with Velocity Engine
- 256K on-chip level 2 cache
- 128MB or 256MB of PC133 SDRAM

Communications

- 10/100/1000BASE-T Ethernet
- Built-in 56K V.90 modem
- Optional AirPort capability (call for details)

Connectivity

- Four high-performance PCI slots
- Easy access to built-in bays and slots
- Two 400-Mbps FireWire ports for connecting up to 63 devices
- Two Universal Serial Bus (USB) ports for connecting up to 127 peripherals
- Optional AirPort wireless networking (call for details)



Apple 15" Flat Panel Studio
 was \$999 **now \$799** #950991
 Display sold separately.

Own this Power Mac G4 466MHz for as low as \$48/month with the New MacMall EZ Payment Plan!

See sidebar for details on the new MacMall EZ Payment Plan.

Extra 128MB RAM FREE!
Power Mac G4 466MHz
 now only
\$1,694 #956215

Order	MHz	RAM	FREE RAM	TOTAL RAM	HD	Cache	Modem	Drive	Networking	Video	Price	or as low as
#956215	466	128MB	128MB*	256MB	30GB	1MB/L2	56K	CD-RW	Gigabit Ethernet	RAGE 128	\$1,694	\$48/mo**
#956216	533	128MB	128MB*	256MB	40GB	1MB/L2	56K	CD-RW	Gigabit Ethernet	NVIDIA GeForce2 MX	\$2,194	\$70/mo**
#956564	667	256MB	256MB*	512MB	60GB	1MB/L3	56K	CD-RW	Gigabit Ethernet	NVIDIA GeForce2 MX	\$2,794	\$89/mo**
#956565	733	256MB	256MB*	512MB	60GB	1MB/L3	56K	DVD-R/CD-RW Combo	Gigabit Ethernet	NVIDIA GeForce2 MX	\$3,494	\$98/mo**

*Professional installation fee of \$30 required for free RAM offer. Hurry! MacMall RAM promotion is a limited time offer.

**See sidebar for details on the MacMall EZ Payment Plan.

Que! M2 Quadslim 10GB FireWire Hard Drive

New!

only **\$319⁹⁹**

#886356

Radeon 32MB PCI Video Card

only **\$199⁹⁹**

#956056

New!

iBot™ Pro FireWire Video Camera

only **\$149**

#880451

Memory Upgrades

Upgrades for Your Apple® Power Mac G4!



#956204	64MB PC133 DIMM	\$61 ⁹⁹
#956205	128MB PC133 DIMM	\$98 ⁹⁹
#956206	256MB PC133 DIMM	\$215 ⁹⁹
#956207	512MB PC133 DIMM	\$752 ⁹⁹

Have your RAM professionally installed by one of our factory-trained technicians for only \$30. Ask for #2214. Visit our Web site: macmall.com for more VIKING memory. Prices are valid at time of press and are subject to change due to market fluctuations. Please call for most current pricing.

Promotional offers cannot be combined. Please check individual promotion details for ending date and other restrictions or call your Account Executive for more information. Prices, specifications and promotional offers are subject to change without notice. Limited to stock on hand. While we do our best to check errors, mistakes may occur—call to verify pricing.

Order Any Time! Open 24 Hours! Order Today by 10p.m. EST—Get it Tomorrow by 10:30a.m.!

macmall.com 1-800-965-3282

AOL Keyword: MacMall Mention your Priority Code: #ZMAD141

MacMall

Shop Formac!

Visit our website for the easiest and most convenient way to buy the best products for your Mac.
Or call us at 1-877-4Formac.



Formac
www.formac.com

Form+Function Line

Formac studio™ **Best of Show at MacWorld SF!**

A video producer's dream come true! Capture, edit and create your own movies - in native DV!

- Convert Analog to Digital Video and vice versa: Edit and store your VHS movies in the digital domain. Share digital video with family and friends with analog VCRs.
- Provides input and output for Composite Video (RCA), S-Video, Stereo Audio and two FireWire ports
- Hardware CODEC delivers industry-leading 28 Mbit/sec DV compression!
- Real-time and frame-accurate editing in native DV - the video format of the Pros!
- Receive up to 125 channels with built-in Stereo TV/FM Tuner (NTSC). Convert TV into DV!
- Record Audio in digital quality (48 kHz, 16 bit), built-in loudspeaker for recording control
- FireWire interface, hot-swappable and bus powered
- Includes web tools to create web enabled movies



Only
\$399
FS 1042-0

Formac dvdram™ **High capacity, low price!**

The FireWire Storage Solution for your Mac

- Incredible 9.4 GB data capacity at lowest cost per megabyte. Up to 100,000 ReWrite cycles with one media!
- Ideal for desktop publishing, multimedia archiving and presentation
- FireWire interface, hot-swappable and bus powered
- Data transfer at megabyte-per-second speeds makes it a removable hard drive!



Only
\$549
FDD 1094-1

Formac cdrw™ **Faster than Fast!**

The FireWire CD-RW Solution for your Mac

- High performance: 12x/10x/32x or 16x/10x/40x drive
- Burns complete 650MB disc in under 5 minutes!
- FireWire interface, hot-swappable and bus powered
- Fully compatible with all CD-ROM, CD-R, CD-RW, and audio CD formats
- Includes Adaptec Toast 4.11



From
\$299
FDR 1012-1

Professional Line

ProTV Stereo™ **Award Winner!**

The TV/FM Tuner and Video Capture PCI Card for your Mac

- Capture sound files, stills and QuickTime movies up to 30 frames per second
- Receive up to 125 TV channels while surfing the web or working on your finances
- Connect easily via antenna, cable, S-Video or Composite
- Includes web tools to create web enabled movies



Only
\$139
PNTV 42-0

... and many more!

Ultra 40 SCSI **Lowest Price Ever!**

16-bit Ultra Wide SCSI PCI Adapter for your Mac

- Ultra Wide SCSI Card with synchronous data transfer up to 40 MB/sec!
- Bootable - Improve Start Up Performance
- Supports Deep Sleep
- Software optimized for Active Termination
- Connect up to 15 Single Ended SCSI Peripherals per Channel
- External 68 pin, Internal 68 and 50 pin Connector!



Only
\$49
PDAC 15-0



SUPERIOR Products for Your POWERBOOK

Great
for
Video
Editing

Xcarét Pro Expansion Bay CDRW Drives

- **Bootable!** • Hot Swappable • Fast Backup or File Transfer
- Toast™ 4 Software • Protective MCE Carrying Case
- Available for PowerBook G3 98 (Wall Street) or PowerBook G3 99 & 2000 (Lombard & Pismo)

iTunes and Disc Burner Compatible!



Xcarét Pro Expansion Bay Hard Drives

- **Ultra Fast!** • Hot Swappable • Bootable
- Compact • Protective MCE Carrying Case
- High-Speed 10GB, 20GB, and 30GB Capacities
- Also available, the Xcarét Pro Expansion Bay Kit - Convert Your old Drive into an Expansion Bay Drive!
- Available for PowerBook G3 98 or PowerBook G3 99 & 2000



Internal Hard Drive Upgrades for PowerBooks

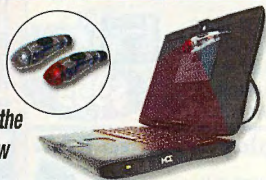


- The BEST Internal Hard Drive Upgrade Kits for your PowerBook!
- Package includes hard drives from the same manufacturers that shipped in the PowerBook from the factory, bundled with everything you need for a successful installation
- High-Speed 10GB, 20GB, and 30GB Capacities

USB FlexLight

"Illuminate Your Workspace"

- Conveniently lights up your keyboard and surrounding paperwork. • Twists and Bends so You can Direct the Light Where You Want it • Powered by the USB Port
- Comes with Both a Clear and a Red Diffuser - You Choose the Type of Light to Suit Your Situation • Very Low Power Draw



DataShuttle Xtreme Portable Hard Drive



- The Most VERSATILE Portable Hard Drives Anywhere
- High-Speed Portable FireWire Hard Drives with Optional USB and PC Card Connectivity
- Also available, the Do-It-Yourself DataShuttle Xtreme Kit - Convert Your old Internal Drive into a Portable External Drive!



Mac Components Engineered



Distributed by:
INGRAM MICRO

For more info:
www.mcetech.com

800.500.0622

949.458.0880

Contact us for a dealer near you.

www.powerbook1.com

secure online ordering

CardBus Upgrade Service

opens up the possibilities for **USB, FireWire, 10/100 Ethernet, expanded Video**

for **PB 2400 & 3400/G3**

WORLD'S SMALLEST POWERBOOK AC ADAPTER!
FOR PB 2000, iBook, PB G3, 3400, 2400, 1400 & 2300
SMALLER THAN APPLE'S SMALLEST ADAPTER!!



only \$85
Save space and weight in your carrying case!!

Auto/Air Adapter
Charge your PowerBook in the car or airplane
\$80

BUNDLE DEAL!

Micro-AC Adapter & Auto/Air Adapter **\$150**

MADSONLINE

Perfect for PowerBook G3 & G3 Series
PowerBook G3 Series Carrying Cases
Slimline Case...\$99
Productivity Case...\$139



Expansion Bay Zip Drives
100MB starting \$199
250MB \$279



Charger, Battery & AC Adapter Bundle
\$285

RATOC Systems

CBFW2 CardBus-to-FireWire Adapter \$129
CB31PB CardBus-to-Ultra SCSI Adapter \$129
FireREX1U FireWire-to-UltraSCSI Converter \$119



CapSure PC Card Composite or S-Video Input \$99
CapSure USB Composite Video Input Built-in Microphone \$119
CapSure/Kritter SV BUNDLE DEAL! \$229



Kritter USB Camera \$99
Kritter SV Camera \$139

Titanium PowerBook G4

\$2595

- 400MHz G4
- 128MB SDRAM memory
- 10GB Ultra ATA drive
- DVD-ROM • 10/100 Ethernet
- 56K internal modem
- 2 USB ports • FireWire port



Call for Custom Configurations & Bundle Deals!



USB FlexLight
\$19.99

PowerBook G3 30GB Internal Hard Drive Upgrade Kit for PowerBooks \$499
CD-RW Drives \$379
30GB Expansion Bay Hard Drive \$649

macally

\$35
iOpti Jr.
Compact USB Optical Mouse



\$69
USB Floppy Drive



\$39
iVoice
USB Microphone



CardBus-to-USB Adapter

\$79



\$29
iMouse Jr.
Mini USB Mouse



\$39
iHub Jr.
3 Port USB Hub

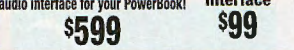


PRO AUDIO EQUIPMENT FOR POWERBOOKS

\$599
VXpocket
Professional ANALOG AND DIGITAL audio interface for your PowerBook!



\$99
USB-2-Midi Interface



TARGUS

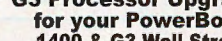
\$49
Top Loading Notepad



\$59
Backpack Carrying Case



\$15
Retractable Phone Cord



\$79
4-Port Mini USB Hub



\$49
Defcon-1 Security Alarm



World Travel Connection Kit



Expansion Bay Device Carrying Case
Convenient protection for expansion bay devices!
\$19



Klear Screen
PowerBook Screen Cleaner
three 6-packs **\$25**



PowerBook & iBook Memory Upgrades!!
See our web site for latest pricing!!

G3 Processor Upgrades for your PowerBook 1400 & G3 Wall Street

\$199
PowerBook & iBook Memory Upgrades!!
See our web site for latest pricing!!

Apple Computer

PowerBook 2400 Battery \$249
PowerBook G3 99/2000 Battery \$139

30 Hughes Suite 203 • Irvine, CA • 92618

Visa / MC / AmEx / Discover / P.O.

1-800-500-MAC • 949-458-0800 • fax 949-458-1803

CALL THE MAC EXPERTS!

Your one-stop source for Apple® Macintosh® - over 40,000 items on sale at better than mail order prices!
It's pretty simple: we know a lot about Mac® stuff, and we care about our customers.

OS X

Only \$89 at PowerMax!



- Aqua user interface
- Super-modern core operating system
- Killer graphics
- Gentle migration
- Internet savvy
- Call PowerMax for expert advice & info!

Regular price **\$129**
Less PowerMax instant discount **-\$10**
Less instant in-store credit toward the purchase of any 128 MB RAM upgrade or better **-\$30**
Net cost to you **\$89**



Best price ever on a Cube! only: \$1199*

Graphite iBook™ G3/466 64/10/DVD \$1499*



G4/500 w/256 RAM, 27 Gb HD, DVD-ROM, Zip \$2149*

Check These Macs Out- New Lower Prices!
We load 'em with RAM & Guarantee 'em! Great price/performance!

Models, fully configured.....Starting At	PowerBook 5300C series.....\$459	G4 Graphite Towers.....\$999
Pre-PowerPC Macs.....\$29	9500 series.....\$488	466 MHz G3 Mac System.....\$1099
6100 series.....\$99	8600 series.....\$499	Factory & Reseller Refurbished Macs*
6200 series.....\$149	PowerBook 5300CE series.....\$549	iMac™ G3/350 64/6/24x CD.....\$649
7200 series.....\$149	9600 series.....\$699	iMac™ G3/400 64/10/DVD.....\$798
5200 all-in-1 series.....\$199	iMac™ G3/233 Bondi Blue.....\$569	Graphite iMac™ G3/400 128/13 S888
PowerBase Desktops.....\$219	Beige G3 Desktops.....\$639	Blue & Wh. G3/400 64/20.....\$1088
4400 series.....\$229	iMac™ G3/266 various colors.....\$588	Cube G4/450 64/20/DVD.....\$1199
PowerCenter Pro Towers.....\$249	iMac™ G3/333 various colors.....\$629	Graphite iBook 64/10/DVD.....\$1499
6400 series.....\$219	iMac™ G3/350 Blueberry.....\$639	PowerBook® 400 64/6/DVD.....\$1799
7300 series.....\$249	Beige G3 Towers.....\$679	G4/500 256/27/DVD/Zip.....\$2149
7600 series.....\$279	PowerBook® 1400C series.....\$699	G4/500 DP 256/40/DVD-RAM.....\$2399
8500 series.....\$339	PowerBook G3's.....\$729	
Umax S900 Towers w/6 PCI.....\$389	Blue & White G3 Towers.....\$949	
	iBooks™.....\$999	

PowerLogic Upgrade your PowerBook to 466MHz for only \$559!

"PowerMax-imum" Bundle Deals

Cube & display w/extra RAM

G4/450 Cube* upgraded to 128 mb RAM, 20 Gb drive, DVD-ROM drive and a 17" Apple Studio display.* Extend your warranty to three years for only \$249.

\$1549

iMac™ w/extra RAM & printer

Graphite S.E. G3/400 iMac™ DV w/ 192 mb RAM, 13 Gb drive, DVD-ROM and a Canon BJC-2100 printer. Extend your warranty to 3 years for only \$149. Price after Canon mfrgr. rebate.

\$849

The "Beige is Beautiful" Bundle

Get this rock-solid G3/266 Tower complete with 128 mb RAM, 6 Gb hard drive, internal Zip drive and beautiful Apple 1710 Trinitron display for one great low price!

\$999

G4 & 17" display w/extra RAM

New G4/400 Tower upgraded to 128 mb RAM, 20 Gb drive, DVD-ROM drive and a 17" Apple Studio display.* Extend your warranty to three years for only \$249.

\$1699

LACIE

FireWire 45 Gb drive*.....\$269
FireWire 75 Gb drive*.....\$469
FireWire CD-RW 16x10x40x.....\$388
Electron19blue II Display.....\$599
Electron22blue II Display*.....\$949
Over 100 other Lacie items on sale!

OS X rocks with dual processors- and they live on at PowerMax!
Up to 533 MHz x 2!

TradeUp

G4 with PowerMax!
601 603 604 G3

We'll take your Mac® OS computer in trade toward the purchase of new product. Call one of our expert Mac® consultants for full details!

POWER MAX
Knowledge is Power

800-441-6977

Local: (503) 624-1827 • Fax (503) 624-1635
email: sales@powermax.com

Prices subject to change without notice. Prices reflect cash discount. Credit card orders strictly verified against fraudulent use. With use of credit card as payment customer acknowledges that some products are subject to final sale. Many prices are limited to stock on hand. All brand or product names are registered trademarks of their respective holders.

Authorized Reseller



• Personal Financing • Fast P.O. Approvals • Business Leasing • Weekly specials on our web site • Order on line or call one of our experts!

G4s & Cubes

DV iMacs™

iBooks™

PowerBooks®

Blue & White G3's

Beige G3's

Software

Join a User Group. Save Big Bucks.



Macintosh User Group members enjoy access to a very special Apple-sponsored web site featuring super deals on the latest Apple products as well as factory refurbished and discontinued Macs, and much more! Not a member? Find out how you can get these great deals by calling PowerMax at 800-689-8191.



www.applemugstore.com



The MUG Store. A cooperative venture between Apple and PowerMax to bring MUG members exclusive deals on the latest Mac® products and special offers on discontinued and *factory refurbished computers.

PowerMax is a division of Computer Stores NW, Corvallis, OR.



WE BUY MACS AND MAC STUFF
(318) 424-9791

SHREVE SYSTEMS

For all of this and more check out our website!
<http://www.shrevesystems.com>



WE STOCK MAC PARTS!

1-800-227-3971

FAX (318) 424-9771 Technical Support (318) 424-7987
Customer Service (318) 424-9791 Purchasing (318) 424-9791
1200 Marshall St Shreveport, Louisiana 71101

The Vintage Mac Superstore!

PowerMac 6100/60

*8 MB Ram
*230 MB Hard Drive
*2X CD



ONLY \$69

While They Last!

Macintosh LC580

Internet Ready!

• 33-MHz MC68LC040
• 8MB of RAM
• 800MB Hard Drive
• 28.8 Motorola Modem

\$199 with internal 4XCD



ONLY \$149

FLOPPY DRIVE BLOWOUT!

1.44

Super Drives

STARTING AT



PART # 661-0474

\$19!

NO EXCHANGE REQUIRED!

PowerBook 5300cs includes:

FREE 56K Modem!

- Supports ext. video
- 24MB RAM
- 750 Hard Drive
- 100-MHz 603e
- Dual-scan color
- Refurbished
- * FREE 56K modem



ONLY \$499

NEW! ON SALE!

ONLY \$1,199



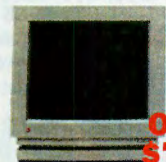
- 450-MHz PowerPC
- 128 MB RAM
- 9 GB SCSI HD
- CD
- * Keyboard & Mouse
- 16 MB ATI Rage Pro Video Card

BRAND NEW!

Call Us!

We stock parts for new and vintage Macs!

Monitor Blowout!



Apple 13" Trinitron RGB
Factory Refurbished

ONLY \$79!



PowerComputing 17" Monitor

ONLY \$149!

Factory Refurbished



Voxon 14" and 15" Monitors

AS LOW AS \$89!

NEW!

See our line items below for other monitor blowout specials!

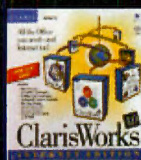
We also specialize in digital audio recording! Call for the best prices on Alesis, Akai, Tascam, Digidesign and Mark of the Unicorn!



Check out our website at www.shreveaudio.com

Now includes a FREE 2 GB hard drive!

AS LOW AS \$699



ClarisWorks 4 Internet Edition

ONLY \$39! NEW!

System Bundles SALE!

7100/60	5200/75	4400	5300/100	7300/180	PowerCurve 120	7200/75
24/350/CD/13" Monitor	8/500/CD/13" Monitor	32/2GB/CD	16/1.6GB/CD	32/2GB/4X	0/0/0	0/0/0
\$299	\$299	\$399	\$449	\$399	\$99	\$149
refurbished	refurbished	refurbished	refurbished	refurbished	refurbished	refurbished

PowerMac CPU SALE!

PRINTERS	MACINTOSH LOGIC BOARDS	MONITORS	NUBUS ADAPTERS
HP Deskjet 890 CM, NEW\$249	G3 logic board, No Processor, No ROM\$399.	Apple 14" A/V refurbished\$129.	Quadra 660AV NuBus Adapter\$79.
Apple StyleWriter 1200, refurbished\$149.	7200/90 logic board, refurbished\$179.	Apple 14" Multiscan, refurbished\$99.	Quadra 610 NuBus Adapter\$79.
Apple StyleWriter 1500, factory refurbished\$149.	LC logic board, refurbished\$49.	Apple 15" Multiscan, refurbished.....\$119	lisi NuBus adapter with math co-processor\$49.
Apple StyleWriter 2400, refurbished\$99.	LC II logic board, refurbished\$99.	Apple 15" AV, factory refurbished.....\$199.	
LaserWriter IIfx w/5MB RAM, refurbished\$399.	Mac LCIII logic board, refurbished, exchange\$129.	Apple MultiScan 17", refurbished.....\$179.	VIDEO CARDS
LaserWriter IIfx w/5MB RAM, refurbished\$549.	Performa 630, No Processor, refurbished\$49.	Apple 20" Multiscan, refurbished\$599.	E-Machines DoubleColor SX NuBus Card NEW\$29.
LaserWriter IIfx w/5MB RAM, refurbished\$449.	Quadra 950 logic board, refurbished\$179.	Radius IntelliColor20e, factory refurbished\$999.	RasterOps 24MX NEW , 24-bit NuBus\$149.
Texas Instruments Micro Laser Pro E NEW\$249.	7100/66 logic board, refurbished\$99.	Voxon 14" Multiscan NEW\$99.	*PowerMac HPV Card (1MB)\$79.
Laser toner cartridges sold separately	6200/75 logic board, refurbished\$149.	Voxon 15" Multiscan NEW\$129.	*PowerMac A/V Card (2MB)\$199.
		Power Computing 15" refurbished\$119.	
		Power Computing 17" refurbished\$149.	

IMAGING PRODUCTS

APPLE PC COMPATIBILITY CARDS
Apple QuickTake 150 refurbished\$149.
Apple QuickTake 100 refurbished\$99.
586 100-MHz, 7" PCI card, refurbished\$99.
486 66-MHz for 6100 series, NEW\$29.

*Products are refurbished unless indicated as "new". Prices reflect a 2% cash discount and are subject to change without notice. Returns are subject to a 15% restocking fee. Not responsible for typographical errors. All trade-ins MUST BE in working condition. Refurbished systems may include like-new components and may also include cosmetic blemishes which do not functionally impair performance of the hardware.

1-800-227-3971

Prices reflect a 2% cash discount and are subject to change without notice. Returns are subject to a 15% restocking fee. Not responsible for typographical errors.

www.shrevesystems.com

800-673-MACS

916-652-1880

fax 916-652-1881

800-673-6227

WE SHIP ANYWHERE IN THE WORLD. CHECK OUT OUR WEEKLY WEB SPECIALS <http://www.poweron.com>

MONTHLY SPECIAL DEALS

USB Keyboard iKEY

\$19⁹⁹
Translucent Design
New A/C S & compatible
Includes 5' USB cable

Apple Floppy Drive

\$79⁹⁹
New Manual Floppy
6601-0121 or 661-1390
(for 8400 or G4)

56K External Modem

\$69⁹⁹
OEM Packed/NEW
Includes Cable
Mac Ready

Mac OS 8.1 CD

\$49⁹⁹
Complete Installation
OEM Packed/NEW
CDROM

USB MacAllly Mouse

\$24⁹⁹
Curved Design
3 Year Warranty
USB Macintosh

USB Umax Scanner

\$39⁹⁹
USB Interface
600x1200 dpi
35 bit Color

PCMCIA Modem

\$29⁹⁹
Retail Packed
28.8/33.6 kbps
Global Village

RAM for EVERY Mac

CALL
WE STOCK
UPGRADES for
ALL Macintosh
iBooks and PowerBooks

PowerMac 5260

24MB RAM • 750MB HD • CDROM
Ethernet • Floppy Drive
Keyboard • Mouse
Built-in Color Monitor

\$149⁹⁹

WEB READY SPECIALS

PowerMac 5200 - 34500/CD/Ethernet 129.99
PowerMac 5300 - 34750/CD/Ethernet 189.99
PowerMac 5400 - 32126/CD/Ethernet 229.99

5260 EDUCATIONAL

24MB RAM • 750MB HD
CDROM • Ethernet
Floppy Drive • Keyboard
Mouse • Built-in Color Monitor

CALL
SPECIAL PRICING for STUDENTS & TEACHERS

5 • 10 • 20 unit pricing

**FULL LAB PRICING INCLUDING
NETWORK WIRING and PRINTERS**

iMac DV G3/400 Mhz

graphite **SPECIAL EDITION**

\$899⁹⁹

128 MB RAM • 13 GB HD • USB
FireWire • Ethernet • 56k V.90
Apple DVD CDROM included!

MORE iMAC DEALS

iMac 333 - 326 GB/CD/E56k 549.99
iMac 350 - 646 GB/CD/E56k 699.99
iMac 400 DV - 6416 GB/DVD/E56k 799.99

iBOOK G3/300 Mhz

includes notebook bag

\$999⁹⁹

32 MB RAM • 3.2 GB HD • USB
24x CD • Ethernet • 56k V.90

FREE
64MB RAM
FREE

ADDITIONAL
64 MB RAM
with iBook
purchase

Apple Original CDROM Specials

12X SCSI
\$79⁹⁹
CDROM

CDROM Installation Kits

• IN STOCK •

CDROM drives are MacOS
Bootable and use Apple
Original Driver Software

External SCSI CDROM Cases (N) 39.99
2x External SCSI CDROM-w/cable 59.99
2x Apple SCSI CDROM-Internal 19.99
4x Apple SCSI CDROM-Internal 39.99
8x Apple SCSI CDROM-Internal 59.99
12x Apple SCSI CDROM-Internal 79.99
24x Apple SCSI CDROM-Internal 129.99
24x iMAC CDROM-Tray loading 99.99
24x iMAC CDROM-Slot loading 99.99
24x iMAC DVD ROM-Slot loading 129.99
8x Apple IDE CDROM-Internal 39.99
12x Apple IDE CDROM-Internal 59.99
24x Apple ATAPI CDROM-Internal 79.99
32x Apple ATAPI CDROM-Internal 99.99
3x Apple DVD ROM ATAPI-Internal 149.99
8x Apple DVD ROM ATAPI-Internal 169.99

Apple Compatible

HARD DRIVES

Includes **FREE**
Hard Drive Utilities

9GB 3.5" x 1.6" **\$149⁹⁹**
SCSI 50 pin

4GB 3.5" x 1.6" **\$99⁹⁹**
SCSI 50 pin

2GB 3.5" x 1" **\$69⁹⁹**
SCSI WIDE
w/50 pin

VIDEO DEALS

Dual Monitor Video Card

\$99⁹⁹
PCI Interface
128bit/100 max
128 bit 2D/3D
Turbo Turbo

Special
Apple 17" Multiscan
Titanium Tube
\$129⁹⁹

Deals
20" Multiscan
Multiple Brands
\$299⁹⁹

All brand or product names are registered trademarks of their respective holders and are respectfully acknowledged.

www.poweron.com

sales@poweron.com

Check Out Our Complete Inventory Online



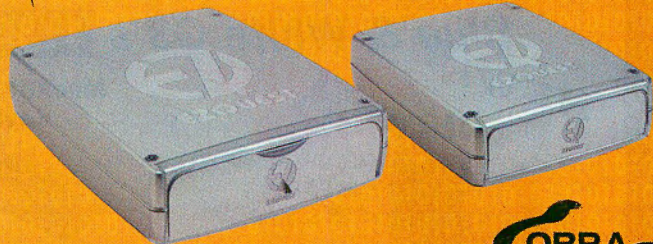
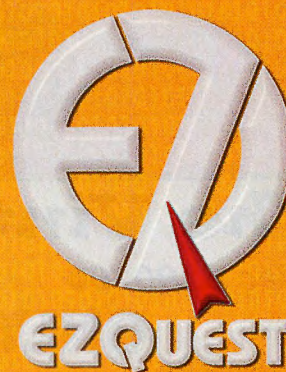
Business Offices
8801 Washington Blvd.
STE. 101
Roseville, CA. 95678

PowerON
• Computer Services •

Gov't & School PO's Accepted
CALL for EDUCATIONAL Quotes

Mon-Fri 7-6^{PST}, Sat 10-5^{PST}

All Prices include 3% cash discount. All items are Used or Refurbished unless otherwise indicated. ALL SALES FINAL.



FireWire • USB • SCSI
CDR/W's & Hard Drives
www.ezq.com



LACC.COM

LA Computer Center
450 N. Oak st.
Inglewood CA 90302

(800) 689-3933

Local (310) 671-4444
Fax (310) 671-9565
University and Government and
fortune1000 P.O's are welcome
International orders welcome

CONVENIENCE
FAST DELIVERY
SECURE SITE

LACC.COM

POWERMACS	I-MACS	PRINTERS
FROM \$849 G3 450 128/96/CD/ WIDE DRIVE \$999 G4 350 64/10G/ DVD 56K \$1079 G4 400 64/10G/ DVD 56K \$1099 G4 400 64/20G/ DVD 56K \$1199 G4 450 256/27G DVD-RAM ZIP \$CALL G4 500 256/27G DVD-RAM ZIP \$CALL G4 DUAL 450 128/30G/ DVD/56K \$1699 G4 DUAL 500 256/40G/ DVD-RAM/56K \$2299 G4 466 Mhz 128/30G/CD-RW \$1575 G4 533 Mhz 128/40G/CD-RW \$2099 G4 733 Mhz 256/60G/ DVD-R/CD-RW \$3299 QUBE 450Mhz \$CALL WORKGROUP G4 500 DUAL PROCESSOR \$CALL G4 500 256/18G/ DVD/SHAR \$2799 G4 400 256/18G/CD/ SHAR \$1899 CALL FOR ALL WORKGROUP SERVERS	FROM \$649 DV SE-500MHZ Graphite/SNOW \$1269 DV+ 450MHZ Sage/Ruby \$1069 DV 400Mhz ALL FLAVORS \$849 Blueberry 350MHZ 64/6G/24XCD \$779 IMAC 333 LINE \$699 I-BOOKS G3-300 Blueberry/Tangerine \$899* G3-366 Graphite \$1349 G3-366 Indigo/Key Lime \$1399 G3-466 Graphite/Key Lime \$1699 POWER BOOK G3 400 64/10G/ DVD 56K 14.1 TFT \$1799 G3 500 128/12G/ DVD 56K 14.1 TFT \$CALL G3 500 128/20G/ DVD/56K 14.1 TFT \$CALL G4/400 128/10G/ DVD 56K 15.2 TFT \$2299 G4/500 256/20G/ DVD 56K 15.2 TFT \$3299	FROM \$99 895Cx 830C/970Cx \$169/179/249 T45x/ T65x \$249/349 2100X/ 2100M/ 2100TN \$599/699/999 1100X/ 1100AXI \$369/399 3100X/ 3150XI \$379/479 4000/ 4000T \$999/1099 4000N/ 4000TN \$1249/1349 4050/ 4050T \$1049/1199 4050N/ 4050TN \$1399/1549 4500/ 4500N 4500DN \$1699/1999/2699 4550/ 4550N \$2099/2399 5000/5000N/5000GN \$1299/1899/2199 8000/ 8000N/ 8000DN \$1649/1999/2199 8100/ 8100N/ 8100DN \$2099/2299/2799 8500/ 8500N 8500DN \$CALL 8550/8550N \$CALL 8550DN/8550GN \$CALL CALL FOR ALL PRINTER ACCESSORY

All prices subject to change without notice. * reflects factory retail. LOS ANGELES COMPUTER CENTER IS NOT AN APPLE AUTHORIZED DEALER. Apple, Apple Logo, iMac, iBook, Power Macintosh, PowerBook, are trademarks of Apple Computer, Inc., registered in the U.S.

Add FireWire To Your Mac

FireWire Web Cam

iBOT harnesses the speed and power of FireWire unmatched by the slower USB based web cams. With a data transfer rate that's 16 times faster than traditional USB web cams, you'll experience high quality clear video. The iBOT is great for video teleconferencing, video e-mail, and home movie making with the included software. The pro version has additional software and a microphone.



iBOT

ClubMac
(800)217-9153

Fry's

Info: www.orangemicro.com
Orders: www.1394firestation.com

Orange Micro Inc.
The FireWire Specialist

FireWire to SCSI Converter

Continue to enjoy the great advantages of SCSI with your new Mac. iMac and Cube users can now have access to SCSI peripherals. G3 and G4 owners can reclaim a PCI slot for their SCSI peripherals. Orange Micro's innovative FireWire® to SCSI Orange Converter is easy to hook up and use. It connects to your FireWire port and converts all SCSI data from your SCSI peripherals - input and output.



Other OrangeLink FireWire Products

- ♦ **FireWire + USB PCI Board** \$139 includes video editing software and cable
- ♦ **FireWire + SCSI Board** \$229 80MB/sec SCSI; includes video editing software and cable
- ♦ **FireWire PCI Board** \$69 includes video editing software and cable
- ♦ **FireWire CardBus PC Card** \$99 includes video editing software and cable
- ♦ **FireWire Hub** \$99 5 additional ports and cable
- ♦ **FireWire Repeater** \$49 15 ft. 1394 extension cable
- ♦ **Grappler+ SCSI+Serial** \$99 10MB/sec SCSI and serial and cable
- ♦ **Grappler SCSI Boards** \$49 - \$69 10MB/sec and 20MB/sec SCSI and cable

Contour ShuttlePRO™

"The ShuttlePRO® by Contour brings the feel and function of an analog edit controller to the desktop."

- Jay Beaudoin, Editor

THE TROUPE
MODERN MEDIA DESIGN
& PRODUCTION

Contour ShuttlePRO™ Features

- Precise jog and shuttle knob with adjustable speed settings.
- Programmable buttons for easy multimedia and design command sets.
- Supports multiple key combinations.
- Ergonomically designed for comfort and ease of use.
- One-hand access to a multitude of commands.
- High-productivity software for application specific programming of its thirteen (13) buttons.

Part No. SP-JNS
SRP. \$99.95



contour
DESIGN

10 Industrial Drive, Windham, NH 03087
telephone: 1-800-462-6678, facsimile: 603-893-4558
email: sales@contourdesign.com

www.contourdesign.com

Contour Design products are available through
Authorized Mac Resellers, Catalog Resellers.
Please visit our website for more details.

All trademarks and registered trademarks are the property of their respective owners.
© Copyright 2001 Contour Design, Inc. ALL RIGHTS RESERVED.

MEMORY

DATA MEMORY SYSTEMS - CALL 800-662-7466

Lifetime Memory Guarantee - 30 Day Money Back

AC Adapters
Batteries
Cables
Camera Memory
Computer Sys.
DIMMs
Iomega Stuff
Modems
Monitors
Networking
Notebook Mem.
PowerBook Mem.
Printer Memory
SDRAM
SIMMs
Storage Drives
Surge Suppressors
USB Accessories
VRAM

UPGRADE YOUR MAC

SIMPLY!

We've got Mac
CPU Upgrades

SONNET
SIMPLY FAST

DMS has
Sonnet CPU
upgrades for
nearly all
Macs in stk.

POWERLOGIX

Don't replace,
upgrade!

DMS
DATA MEMORY SYSTEMS

DATA MEMORY SYSTEMS

24 Keewaydin Drive
Salem, NH 03079
Fax: 603-898-6585

We accept corporate, educational and govern-
ment purchase orders with prior approval

Since 1987, DMS has
provided customers
with the best memory
prices, guarantee and
service anywhere.

Nothing has
changed!

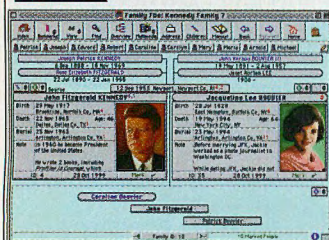
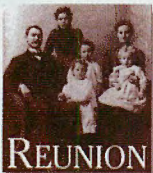
www.datamem.com



FAMILY HISTORY - GENEALOGY

REUNION⁷

Reunion 7 is the perfect tool to
organize your family history. Plenty of
room for names, dates, places, stories,
notes, tidbits, and
sources. Include
all your favorite
pictures, sounds,
and home movies.
Automatically
build multimedia
web pages to
share your family
history on the
Internet! Print large, colorful tree
charts, timeline charts,
and fan charts for family
reunions. Fun and edu-
cational for the whole
family. Reunion 7 includes
over 80 new features
and enhancements!



Leister Productions
PO Box 289, Mechanicsburg, PA 17055
phone 717-697-1378 fax 717-697-4373
e-mail: info@LeisterPro.com
web site/demo: www.LeisterPro.com

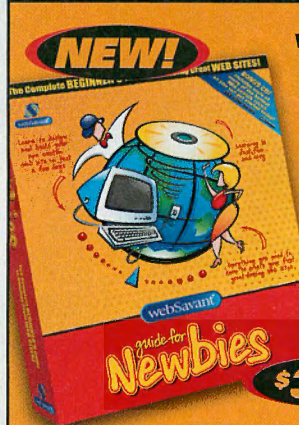
To order, call or visit
Outpost.com 800-856-9800

USB
NOW AVAILABLE
Universal
infrared
remote
control
from
your
Macintosh.

Order NOW! **1.866.RED FIRE**
733.3473
Visit us at:
thezephIR.com
from studioZee

MacAddict.com
GET WHAT YOU NEED

LEARN TO DESIGN WEB SITES

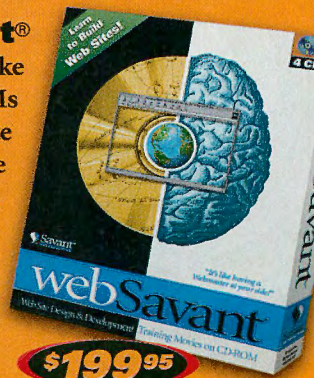


webSavant[®] Guide for Newbies[™]

If you're new to the Web and
want to learn how to create
your own great looking Web
sites, look no further! This
virtual guide on CD has a
user-friendly interface and
uses non-techy jargon that
makes learning quick,
easy and fun.

\$39.95

webSavant[®]
Learn to build Web sites like
the pros! Four CD-ROMs
explain in detail how to create
engaging Web sites from the
ground up, covering HTML,
JavaScript, audio, video,
animation, CGI scripts,
PDF, Flash, tips and tricks,
and much more. Perfect
for all skill levels.



\$199.95

www.websavant.com or call toll free 866-4-SAVANT

HARD CORE
Gear for the true Mac Enthusiast

Check out our original designs, parodies and much more.

New Year...
New Designs,
jokes, clothes,
and interface
upgrades.

www.Hardcore4mac.com

MEGA MACS.COM

Featuring
met@box **Formac**
Canon **Swann**

- PowerBook Batteries from \$29
- Office 2001 / Freehand 8 \$299/59
- Norton AntiVirus 6 / Utilities 4 \$14/9
- OmniPage 7.0/8.0/OS 8.5 \$45/129/79
- RayDreamStudio 5.5 or Timbuktu \$59
- Ricoh Ext. SCSI CDRW w/toast \$149
- 17 inch .26 Digital Color Monitor \$119
- Umax Astra 2100U Scanner \$47
- Formac ProTV/ProTV Stereo \$89/135
- 9GB IBM UltraStar 9LP HD \$149

Get FREE software with orders placed on our website
918-664-MACS (6227) **WE BUY MACS!**
fax: 918-663-6340 Price rounded down, credit cards ok

GOTCHA COVERED
Computer

Dust Covers For Your Mac!
Available In All Modern
And Retro Colors!
\$19.95

Coming Soon! Covers For Your G4, Printer And Monitor!

www.gotchacomputercovered.com

Take Control!

Remote Control for PowerPoint, QuickTime, DVD, CD, & MP3 Software!

"Flawlessly controls every supported application..."
- MacAddict Feb 2000

Digital Media Remote
USB remote control for PowerPoint, DVD, CD, & MP3 software players (\$79)

USB Twin Serial Adapter
Add 2 Mac serial ports to your USB Mac
• For use with tablets, PDAs, cameras & many printers
• Two ports for the price of single port solutions! (\$79)

USB PDA Adapter
Connect Palm organizers to your USB Mac or Win98 PC (\$39)

USB 4-Port Hub
Connect more USB devices to your USB Mac (\$39)

Keyspan USB Card
Add 2 USB ports to your PCI PowerMac (\$39)

KEYSPAN **www.keyspan.com**
(510) 222-0131

Groove Maker 2.0 **NEW!**

Millions of grooves just one click away

Import & Remix MP3!

GrooveMaker Generate millions of grooves with one click. Remix loops live on an 8 track loop-player.

Virtual Synth Arpeggiator
Play rave lines along with loops

LoopMaker
Import and resync virtually any audio file on the fly.

WWW.GROOVEMAKER.COM

- Play, Mix, Randomize, Load, Import and Match loops on the fly without ever stopping the music!!!
- Use it in the studio or play it live
- Amazing real-time response • Import and resync virtually any loop, including MP3s!
- Integrated virtual synth arpeggiator
- Integrated groove sequencer for easy visual composition
- Export your mixes with multiple audio formats
- Put your music directly on the web or on CD
- Easily sonorize your Flash™ animation and any other web, multimedia and video material
- Fully QuickTime™ 4 compatible

AXE Brazilian Percussion 49.95\$	STREET VOICES Street Voices Hip-Hop/Rap/ R'n'B - 49.95\$	GrooveMaker 2.0 Customer Software & Security GrooveMaker 2.0 2CD set 79.95\$ (upgrade at 49.95\$)
TEKNOSTORM Teknostorm Techno 49.95\$	STUN Stun Hardcore/Techno 49.95\$	GrooveMaker 2.0 DJ Box GrooveMaker 2.0 DJ Box 4CD set 129.95\$ (upgrade at 89.95\$)
DRUMBASSIC Drumbassic Drum'n'Bass 49.95\$	MAGNETIC Magnetic House/Techno/ Trance/D'n'B - 49.95\$	
CONTAMINATED Contaminated Ambient/Dub 49.95\$	HOUSE PARTY House Party House 49.95\$	

800-747-4546

Call ILIO Entertainments
ph: 818-707-7222
fax: 818-707-8552



iMate

UNIVERSAL ADB TO USB ADAPTER

**Easily Connects Any ADB Device
To USB-Equipped iMac or PC Computer**

The innovative iMate USB to ADB adapter allows users to easily connect their existing ADB peripherals to iMacs, Macs with USB cards, and PCs with USB. The iMate is compatible with any ADB device including mice, keyboards, trackballs, trackpads, hardware dongles, and AppleVision displays.

Retail price \$39

80 Fesslers Lane • Nashville, TN 37210
615.255.0990



info@griffintechnology.com
www.griffintechnology.com

The gPort universal serial adapter is the perfect companion for your new blue G3 computer.

Designed from the ground up with the G3 in mind it supports every serial device that works on your older Macs.



- Easy to install
- Economical
- Cost Effective

With the new G3s Apple has made a bold move to faster and more universal i/o interfaces. The gPort provides a great transition for people with existing serial equipment.

Retail price \$49

gPort
THE SERIAL SOLUTION

Save - AppleWorks Training Products

AppleWorks 6 for Dummies	\$15.99	Getting Started w/ AW Databases ..	19.95
AppleWorks 6: Missing Manual	14.99	Getting Started w/ AW Spreadsheets ..	19.95
AppleWorks Journal (10 issues)	39.00	MacAcademy AW 6 Videos	39.95
AppleWorks Template Catalog	5.00	Macworld AppleWorks 6 Bible	27.99
AppleWorkShop 6 for Teachers	29.95	Macworld Mac OS 9 Bible	29.95
AW 6 Button Bar Wall Chart	9.95	World's 100 Greatest Books CD	39.95
AW 6 Keystroke Wall Chart	9.95	200+ Updaters for OS 9	14.95
Both Wall Charts	14.95	Macintosh Batteries	call
AW 6 Reference Sheets (25)	19.95	U.S. s/h first item	5.00
AppleWorks 6 Step by Step	19.95	Additional items @	3.00

- Satisfaction guaranteed or your money back. -

AppleWorks Users Group; (888) 781-AWUG; Fax: (734) 454-1965
orders@awug.org; www.awug.org

Harmonize
your world.

MindChimes
www.mindchimes.com

computer companions that run in the background
while you use your computer for other tasks

MindChimes
virtual Windchimes

OceanSongs
virtual Surf Tunes

**SPECIAL
OFFER:**

Both Products
only \$14.99!

visit our website!!!

MEMORY and MORE!

Lifetime Warranty on RAM!

BEST PRICES!

OnLine Discounted Pricing available only at www.macsolutions.com

Upgrade
Today.
It's easy!

Authorized Dealer
Apple Specialist
Authorized Service Provider

NEW MAC® & DRIVE SPECIALS!

Power Macintosh® G4-500 Server - OS X Server, 256mb/18gb/UVDVD/ATI RagePro/Network Card	\$1,749
Power Macintosh® G4-500 OS9 256/18gb/DVD	1,799
Power Macintosh® G4-400 64/20gb/DVD/56k web	
PowerBook G3-400 64/10gb/DVD/FW/USB/56k web	
iBook™ G3-300 12.1 32/6gb/24x/56k Tangerine	1,149
Seagate 30gb IDE 7200rpm	WOW!! 149
Seagate 18.4gb Barracuda 50 pin narrow SCSI	349
Seagate U160 SCSI Cheetah 9.2/18.4gb	239/359
Seagate U160 SCSI Cheetah 36.7gb	579

G4/Yosemite/G3/iMac™

64 mb	\$ 28
128 mb	52
256 mb	93
512 mb	285

168 Pin DIMMs

16 mb	\$ 19
32 mb	39
64 mb	67
128 mb	130

iMac™/iBook™/PBG398/99

64 mb	\$ 29
128 mb	53
256 mb	108
512 mb	297

SIMMs 72 & 30 pin

4 mb	30 pin	\$ 7
16 mb	30 pin	15
16/32 mb	72 pin	15/37
64 mb	72 pin 6100/Sampler	69

SOFTWARE SPECIALS!

FinalCut® 1.2 w/FREE 64mb PC100	\$999
Mac® OS 8.1 CD only	49
Norton Antivirus 6.0	69
Norton Utilities 6.0	94

Used Mac®/HD BlowOut!

8500/120 16/1gb/CD	\$325
7100/66 16/230	99
7200/120 16/500/CD	150
Quantum 2gb SCSI Internal	59

*** The Memory market is extremely volatile. Please call or check our website for the most up-to-date prices.

WE BUY, SELL & TRADE MACS!
CALL (800) 80-WE-BUY for a quote

AppleCare®
and Apple® Software
Available. Call!

MacSolutions, Inc. 11933 Wilshire Boulevard, West Los Angeles, CA 90025 Fax: (310) 966-4433
University & School P.O.'s Welcome Note: All prices are subject to change. Limited to stock on hand. #1218

Secure Online Ordering or Call Toll-Free (800) 873-3RAM

www.macsolutions.com



MRQ
Mac-Res-Q®
 sales@macresq.com
 (925) 689-9488 • (925) 689-9487 fax

PowerMac G3/233 DT
\$599!

PowerMac G3/300 MT
\$799

PowerBook 3400c/200
\$699!

UMAX Astra 600s SCSI Scanner
\$49!

LaCie 4x4x24x USB CD-RW
\$129

Apple G3/333 ZIF Card
\$99!

NEW 15" MultiScan
\$89!

Norton Utilities 5.0
\$29!

Norton AntiVirus 6.0
\$19!

Global Village VideoFX \$49!
 Easily connect camcorders, VCR/DVD to your USB Mac!

PowerMac Internet Bundle!
 200 MHz PowerMac, 32/1GB/CD
 15" Display, 56k Modem,
 & Inkjet Printer **only \$399!**

iMac G3/233 \$499

iBook G3/300 96/3gb/CD/56k \$999

MacAlly iKey USB Extended Keyboard \$19!

Parts! Parts! Parts!

We carry thousands of replacement parts for Macs old & new!

PowerBook Logic Boards from \$149
PowerBook Color Screens from \$99
PowerMac Logic Boards from \$29
Mac Power Supplies from \$19

Visit our newly redesigned web site for our most current inventory & pricing!
 Important Stuff: All items are refurbished unless noted as new. Pricing & availability subject to change. 15% restocking fee on functional returns. No returns after 30 days.

888-447-3728 More than 4000 Macintosh products & secure online ordering @ **www.macresq.com**

MacSales
 1-888-MACSALES
 Buy • Sell • Repair • Parts
 1-888-622-7253
 www.macs4sale.com

Upgrading? Sell us your Mac!

PowerMac G3 Desktops
 • PowerMac G3 266 Beige
 • 64mb ram / 4gb hard Drive/CD
 • Built in Zip Drive
 Add a 17" Apple monitor for \$99

Sale! \$599

Computers	Printers	Monitors
PMac 7200/75 16/500/CD \$199	Personal Lw 4/600 600DPI \$299	14" Apple Color Display \$79
PMac 7200/90 16/500/CD \$229	LWPro 630 600DPI / Ethernet \$349	15" Apple Multiscan \$159
PMac 7500/100 16/500/CD \$299	LWPro 16/600 600DPI \$799	17" Apple Multiscan \$229
PMac 7500/100 32/1G/CD \$329	Laserwriter Toner - from \$39	
PMac 7600/132 32/2G/CD \$379		
PMac 8500/132 32/2G/CD \$449		
PMac 8600/200 64/4G/CD \$599		
PMac G3266 64/4G/CD/zip \$599		
iMac 333 Blue 32/6G/CD \$599		

Apple Laserwriter Pro 630
 • Compatible with all Macs & iMacs
 • Ethernet • Appletalk • Parallel
 • High resolution 600 DPI
Sale! \$349
 * Toner with purchase \$39 *

New Arizona Location!
 Visit our retail store

MacSales
 10210 N 32nd St. ste A1
 Phoenix AZ 85028

Call or visit our website at: www.macs4sale.com for latest prices and specials.
 In Arizona 602-867-0800 Fax 602-867-8048 Mon- Fri 8:00-5:00 MST
 School PO's Welcome. Prices reflect a 3% cash discount. Prices subject to change. All sales final.
 Returns at managers discretion & subject to min. 15% restocking fee. Products are used with 90 day warranty.

Mac POWER
 Sales & Service, Inc.
 BUY • SELL • TRADE
 UPGRADE • REPAIR
 New • Used • Refurb.
 • Powerbooks • Printers
 • PowerMacs • Peripherals
 • Performas • Ram
 • Quadras • Parts
 • MacII-LC • Software
 • Monitors • Accessories
 www.macpowerinc.com
888-275-POWER
 Fax: 408-448-6132
 1080 Blossom Hill Road #E
 San Jose, California, 95123

800.304.4639

A new way to LOOK @ used MACS

www.macosalltrades.com

MAC OF ALL TRADES

Herman Miller Aeron Chair

HEAVEN: a side view

800-883-9697
www.sittingmachine.com



1-800-533-9005

Fax Bids: (310) 475-7744 or
e-mail at SALES@COMPU-AMERICA.COM
10435 Santa Monica Blvd., Los Angeles, CA 90025

Check out our New Web!
WWW.COMPU-AMERICA.COM

Government, University and Fortune 1000 P.O.'s are welcome! Business Leasing is Available!
International Orders Please call tel:(310) 446-1771 We are open Mon-Fri, 9am-6pm

POWERMACS

Starting at
\$799

NEW G4/733 .. 256/60G/DVD-R/56K .. 2399
NEW G4/667 .. 256/60G/CDR-W/56K .. 2699
NEW G4/533 .. 128/40G/CDR-W/56K .. 2099
NEW G4/466 .. 128/30G/CDR-W/56K .. 1649
G4/500DP .. 256/40G/DVD-RAM .. 2399
G4/500DP .. 256/40G/DVD-ROM .. 2299
G4/500MT .. 256/27G/DVD-RAM/ZIP .. 1979
G4/450DP .. 128/30G/DVD/56K .. 1899
G4/400MT .. 64/20G/DVD/56K .. 1249
G4/450MT .. 64/20G/DVD/56K(CUBE) .. 1379
G3/350MT .. 128/126G/24XCD/ZIP .. 899*
G3/350MT .. 64/6G/24X .. 799*

WORKGROUP SERVERS

G4/500 .. 256/18G/DVD/SHARE .. 2699
G4/400 .. 256/18G/24X/SHARE .. 1899

G4 & G3 POWERBOOKS

NEW G4/400 128/10G/DVD/56K .. 2499
G3/500 128/20G/DVD/14.1 TFI/56K .. 2199
G3/400 64/10G/24XCD/14.1 TFI/56K .. 1899
G3/300 64/8G/DVD/14.1 TFI/56K .. 1599
G3/266 64/6G/CD/14.1 TFI/56K .. 1399
G3/233 32/2G/CD/12.1 TFI/56K .. 999*

I-MACS

Starting at
\$599

I-MAC G3/500 128/30G/DVD/56K(GRAPH) 1299
I-MAC G3/500 128/30G/DVD/56K(SHOW) 1299
I-MAC G3/450 64/10G/DVD/56K(SAGE) 1099
I-MAC G3/400 64/10G/DVD/56K .. 899*
I-MAC G3/333 32/6G/24XCD/56K .. 649*
I-MAC G3/266 32/6G/24XCD/56K .. 599*

All Flavors Are In Stock!
(Blueberry, Strawberry, Grape, Lime, Tangerine.)

Starting at
\$949

12.1 Active TFT
Color Screen,
20xCD,
56K Modem

I-BOOK G3/366 64/10G/CD/Indigo 1349
I-BOOK G3/366 64/6G/CD/Graphite 1399
I-BOOK G3/300 32/3.2G Blueberry 949*
I-BOOK G3/300 32/3.2G Tangerine 949*

HEWLETT PACKARD

1100X/1100AXI .. 349/379
3100X/31500X .. 349/449
2100M/2100TN .. 649/899
4000N/4000TN .. 999/1299
4050N/4050TN .. 1299/1399
4500N/4500DN .. 2099/2899
4050USB .. CALL
5000 .. 1250
5000N/5000GN .. 1879/2199
8000N/8000DN .. 2149/2099
8100N/8100DN .. 2599/2899
8500N/8500N .. CALL/CALL
8550N/8550N .. CALL
8550D/8550DN .. CALL

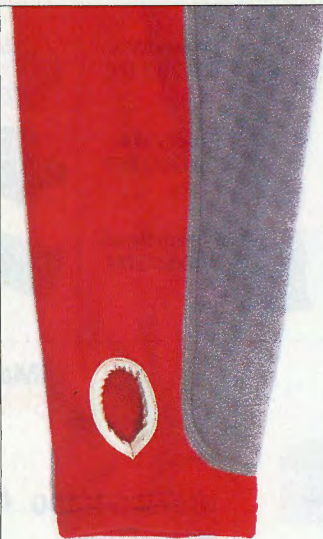
Super Deals On

Full Line Of
18.1" LCD
Flat Panels



YOUR #1 COMPUTER SUPERSTORE!

All prices are cash discounted. * denotes a refurbished product. Not responsible for typos. Apple, the Apple logo, Mac, Macintosh, PowerMacintosh, PowerBook, WorkGroup, iMac & iBook are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. All other names & logos are trademarked by their respective owners. We are Not Apple Authorized.



'mouse-hand' sleeve detail:
thumbhole and forearm padding

HASTON

clothes for geeks available at
wehaveaproblem.com
or 1-800-932-5475

Macs4U.com

Secure Online Ordering

Everything for your MAC!

MEMORY

G3/G4 & New iMac

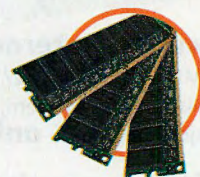
64mb 128mb 256mb
\$34.95 \$59.95 \$127.95

iBook, PowerBook iMac 233-333

64mb 128mb 256mb
\$39.95 \$69.95 \$139.95

2001 Model G4

64mb 128mb 256mb
\$37.95 \$64.95 \$133.95



Prices change daily.
Check website or call
for today's LOW price.

800.224.5899

MEMORY

Lifetime Warranty on all MEMORIES.
Call For Latest Pricing.
We Have The Best Deals On PB. Batteries!

iMac 233-333MHz	PowerBook G3/iBook	PowerBook G4
32/64MB \$25/45	32/64MB \$25/45	64/128MB \$45/75
128MB \$95	128MB \$95	256MB \$295
4MB VRAM \$29		
G3/G4/iMac 350-450MHz		
64MB \$34		
128MB \$59		
256MB \$99		
168 PIN EDO/FPM DIMM		
32/64MB \$79/179		
72/30 PIN SIMM		
16/32MB 72 Pin \$40/79		
4/16MB 30 Pin \$9/29		

Quality Factory Refurbished Notebooks at Wholesale Prices!

iBook G3/366 64MB/6GB/CD/56K/Graphite \$1195
iBook G3/300 64MB/6GB/CD/56K/Blueberry \$939
iMac 350MHz 64MB/6GB/CD/56K/Blueberry \$669

Super Prices on 2.5" Notebooks Drives!

eritech

INTERNATIONAL, INC.

213 North Orange St., Suite C,
Glendale, CA 91203

CALL Toll Free **1-888-808-6242**

Phone: (818)244-6242 FAX: (818)500-7699

www.eritech.com

e-mail:eritech@sprynet.com

Prices Are Subject
to Change without Notice!
Prices effective Feb/07/01



800-WE-FIX-MACS

Free Diagnostics • Best Prices • Best Warranties • Huge Inventory

iMac, G4 & G3 Repairs from \$99
All Parts Genuine Apple

PowerComputing Specialists

G3 Wallstreet Battery \$99

www.AllMac.com

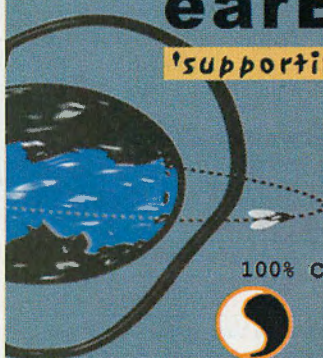
1245 Laurelwood Rd., Santa Clara, CA 95054 • 800 833-4962

Repair • Upgrade • Buy • Sell • Trade New • Used • Refurbished

earBuzz.com

'supporting indie artists ...

.. 100%!



FREE mp3's

50% off CDs

FREE to artists

100% CD sales profit to artists



"earBuzz.com ... is a dream come true"
- Musician's Web Handbook September, 2000

macally
webkey®
USB Wireless Multimedia Keyboard



macally
loptinet®

macally™
AirStick



macally
shock2®

Macally is proud to bring you the latest USB and FireWire peripherals for Mac users. Our full line of products are specifically designed to improve your productivity. Please visit our website to see what Macally has to offer. We work hard to provide you with the best peripherals for your Mac.

Call us for dealers near you 1-800-644-1132 or visit us at: www.macally.com

All trademark or registered trademarks are the property of their respective owners

1-800-4-MEMORY

LAPTOP - DESKTOP - CAMERA

MEMORY
WE CAN BEAT
ANY PRICE
ON ANY MEMORY
FROM ANYONE
PERIOD !!!

SHOP FIRST, THEN CALL US

NO RE-STOCKING FEE - MAJOR BRANDS
BRAND NEW PARTS - FREE TECH HELP

SPECIALS ON THE WEB
WWW.18004MEMORY.COM

Super Savings for Students, Teachers & Schools!
ACADEMIC DISCOUNTS

FREE CATALOG AVAILABLE!

Macromedia Web Design Studio only \$239!

All Adobe Titles	Call!	ElectricImage	\$495	MS Office 2001	NEW Call!
Coda Finale 2001	\$199	Filemaker Pro 5	\$148	Norton Utilities	\$59
CodeWarrior Pro 6	\$109	Fireworks 4	NEW \$98	Painter 6	\$199
DenebaCAD	\$249	Flash 5	\$98	Sibelius	\$229
Director 8	\$329	Freehand 9	\$98	TechTool Pro 3	\$79
Dreamweaver 4	NEW \$98	lomega	Call!	Vectorworks 8.5	\$329
		Lightwave 6	\$789	Wacom 6x8	\$284

Visit us online for more savings, specials, bundles, and 24hr ordering.

1-800-294-4035 FAX 1D'S & PO'S TO 512-450-0263

ACADEMIC SUPERSTORE

www.AcademicSuperstore.com

DATA RECOVERY: 800-440-1904

7 good reasons to choose DriveSavers:



1. Fastest, most successful data recovery service available.
2. Recommended and certified by all drive companies to maintain your warranty.
3. Advanced, proprietary recovery techniques.
4. 24-hour, onsite, and weekend services.
5. Retrieve recovered data instantly with DATAEXPRESS™ over high speed secured Internet lines.
6. Featured in Mac Addict, Macworld, Mac Week; also by CNN, BBC, Forbes, and many others.
7. Federal and State Contracts.



Since 1985

"We Can Save It!"

Visit DriveSavers at: www.drivesavers.com

©2000 DRIVESAVERS, INC. 400 BEL MARIN KEYS BLVD., NOVATO, CA 94949 INTL: 415-382-2000 FAX: 415-883-0780

shut down

Now fortified with vitamins and minerals.

News Stories We Thought We Read Somewhere...

Apple Recalls G4 Laptops

Safety Concerns over Speed

CUPERTINO, Calif. (AP)—Shortly after the release of the new PowerBook G4 line, Apple Computer issued a recall notice so it could add new safety equipment to the laptop computer. The Cupertino-based computer manufacturer is adding airbags and other supplemental restraint systems in response to claims by consumer watchdog groups that the machine is “too fast.”

“When Jobs said that the PowerBook G4 was the fastest laptop around, he wasn’t kidding,” said Erika Ramirez, spokesperson for the National Organization for Safety (NOSY). “What he failed to mention is that this extra speed can be dangerous. When one of these new G4s crashes, the potential for injury is many times higher than it was with the older, slower G3 PowerBooks.”

“Remember: Speed kills,” Ramirez added.



Apple is adding safety equipment to all new G4 PowerBooks and is also recalling existing laptops to add the equipment retroactively.

In an agreement hammered out last week, Apple is installing safety equipment to prevent such injuries during a crash. While the details of the agreement are not public, they do not include any additional consideration for those prone to motion sickness.

“We’re willing to concede that some sort of restraint system might be necessary,” said one Apple engineer who requested that he not be identified. “But we draw the line at the need for airsickness bags. If you’re feeling nauseous when using your Mac, just look away. For the love of God, just look away.”

PHOTOGRAPH COURTESY OF APPLE COMPUTER, INC.

MacAddict Corrections

+ On page 168 of the December 2000 issue, we proclaimed that the end of the world was coming because the real millennium began on January 1, 2001. We’re sorry, but not as sorry as Arthur C. Clarke.

+ After wrestling a live caribou in the Alaskan tundra, MacAddict digital media editor Andrew Tokuda accidentally stepped on and crushed the last Yukon boll weevil. He’s sorry.

+ During our Comdex coverage on the MacAddict.com Web site, we accidentally found and reported on a few Mac-related announcements from the show in Las Vegas. What we meant to do was attend a few Las Vegas shows with Mac Davis. We’re very sorry.

+ On page 299 of our January 2001 issue, we accidentally published a how-to that walked readers through disarming a tactical nuclear warhead, when we meant to publish a tutorial on trimming your Extensions folder. We’re sorry, but we’ve received several shipments of weapons-grade plutonium from grateful readers. Our subscription reminders now include the phrase “or face total destruction.”

+ In 1998, we accidentally stole this “Corrections” bit from the now-defunct *Might* magazine. We feel just awful.

Top 5 Reasons Apple Chose Titanium for the G4 PowerBook

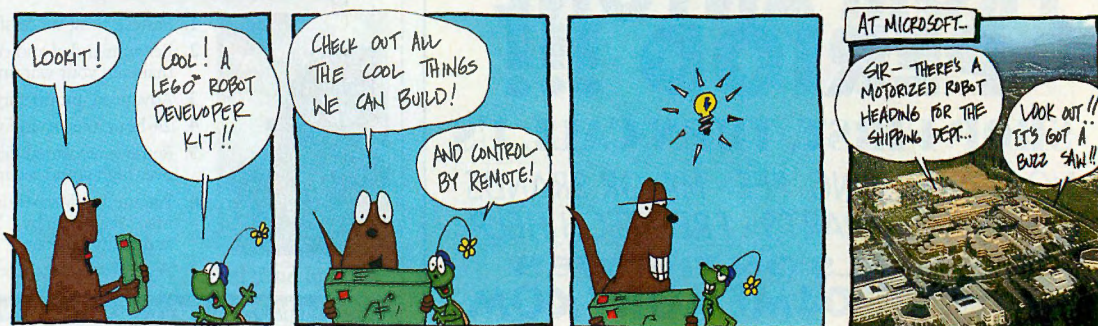
- 1** Doubles as a disposable space heater once exposed to an oxygen-enriched atmosphere.
- 2** Brushed-metal look and feel spread from the QuickTime Player to the hardware.
- 3** Provides something durable to beat on Motorola engineers, prodding them to build faster chips.
- 4** There’s one more letter in titanium than in Intel’s Itanium code name.
- 5** Acts as a bulletproof shield for those low-altitude flying-combat missions.

Ex-Editor in Chief Feels “The Noize”



Shortly after his release from duties at MacAddict, Rob Capps was sighted at a Tokyo karaoke establishment singing Quiet Riot’s “Cum On Feel The Noise.”

FITZPATRICK THE RAT™



If this is Norton™...

This is TechTool Pro...



Nothing can ruin your day faster than a broken computer. And while Macintosh is one of the most reliable computers in the world, sometimes things can go wrong. That's why we invented TechTool Pro. TechTool Pro is the super-utility that can find and isolate almost any problem on your computer. No other utility in the world comes even close to covering as many aspects of your Macintosh as TechTool Pro.

But diagnosing computer problems is only half the battle. Besides repairing drives, recovering data and checking the health of your Macintosh components, TechTool Pro can now help protect you against virus problems and software conflicts. TechTool Pro can also keep your Mac running at its peak between problems. The program optimizes your disk drive to make your computer run faster and more efficiently. Our RAM panel even allows you to see

the inner configuration of your memory without opening your computer case.

Do all these features make TechTool Pro complicated to use? Not at all. The Multitester feature allows you to give your computer a full checkup with one click of your mouse. TechTool Pro even creates graphic, easy-to-read and understand reports. Now you can know the state of your computer without having a degree in computer science.

Every day, more and more Macintosh professionals are choosing TechTool over other system utilities. In fact, even Apple Computer includes TechTool Deluxe with every copy of their AppleCare™ Protection Plan. Simply put, TechTool Pro 3 is the most complete and powerful troubleshooting utility available for your computer. Why would you settle for anything less?



Micromat Inc.
800-829-6227
707-566-3831
FAX: 707-566-3871
info@micromat.com
www.micromat.com



THE MOUSE IS DEAD. LONG LIVE THE GRAPHIRE.

More control, accuracy and flexibility than you thought possible. Photoshop LE and Painter Classic software included to digitally enhance your photos. A revolutionary price of **\$99⁹⁵**. The Graphire changes everything.

PEN: Pressure sensitive with built-in eraser – create natural art strokes, edit photos and add signatures

CORDLESS MOUSE: Three buttons, three times more accurate, smoother feel, never needs cleaning

SOFTWARE: New Power Suite bundle, with Photoshop® LE, Painter Classic® and more, included



visit
www.wacom.com/deadmouse

800-922-2585
call

graphire BY **WACOM**